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PENNSYLVANIA FARM JOURNAL

VOLUME 4.

WEST CHESTER, JANUARY, 1854.

NUMBER 1.

OUR NEW VOLUME.

With the present number commences the fourth volume of the Pennsylvania Farm Journal, and which we hope to make superior to any of its predecessors in typographical execution, value of matter and general variety. We are encouraged by the numerous friends and early patrons of the Journal in the belief, that it now ranks well compared with other agricultural periodicals; that it is especially adapted to the State in which it chiefly circulates; and that the position it has attained in so comparatively short a period as three years, is proof that it has been found equal to the occasion, which seemed to require at least one paper in Pennsylvania devoted to the interests of agricultural and horticultural improvement in their various departments.

So far as a steady increase of our subscription list may be considered evidence, our efforts to make the Pennsylvania Farm Journal what it ought to be, have been appreciated, and whatever doubts may have been entertained about the success of the enterprise at the start, it has now *passed* that period of uncertainty, and may be considered firmly established on a permanent basis. For the future we look forward with confidence, not only to a continuance of former support, but to increased exertions on the part of our friends, favorably located in different parts of the State, to establish clubs and extend its circulation. Our terms, considering the amount and value of the matter it contains, are as low as any other similar paper, and we do not think they can fairly be objected to by any one. The information in a single number has been, we are assured, the means of saving a large amount of money to individual farmers, and it is entirely impossible but that it will in future, to the intelligent reader, be worth many times more than the small amount of subscription.

Agricultural periodicals have become positively necessary to the skilful farmer, who expects to keep up with the improvements and progress of the times. There is no branch of rural economy, whether it is the raising of stock and the adaptation of particular breeds to certain districts, improvements in agricultural implements and machinery, new modes of tillage, introduction of new articles of culture, valuable seeds, planting and management of orchards, the ravages of insects, &c., &c., but in which there is yet much to learn, and on which the practical farmer may derive valuable instruction from agricultural papers. On all these, and other kindred subjects, we hope to keep the readers of the Farm Jour-

nal fully posted up, and to furnish such illustrations and engravings in each number as may be found desirable. Our Journal has heretofore been better supplied with descriptive engravings than most others. This superiority we shall endeavor to maintain. We are also promised for the future valuable aid from several able contributors and practical farmers in Pennsylvania, which will greatly add to the value of the work. To those who have heretofore assisted us in this way, we are much obliged, and hope for a continuance of their favors; and to practical farmers generally, who are more used to the plough than the pen, we would say give us any facts or details relating to your own farm management, or that of your neighborhood, without reserve or hesitation. The *facts* are just what we want. We do not care that they should be just dressed in nice language for the printer. We can do that if necessary. What we want are *plain facts* and practical experiments, and upon these the real value of any Farm Journal must very much depend. We have from the very first been desirous to give ours a practical character, and make it acceptable to the working farmer, who farms for a livelihood.

Our coming volume will continue in each number, the valuable list of new patents relating to agriculture, reliable accounts posted up to the latest period before going to press of our own and foreign markets, prospects of crops, prices of grain and cattle at the principal business seaports, the valuable monthly reports of the Pennsylvania Horticultural Society, and also such standard articles from our foreign exchanges in Europe, as are adapted to our own practice, and are worth preserving for future references.

We have also been fortunate in obtaining the regular correspondence of one of our Chester county farmers, who is now in Europe with a view to make considerable stay, and perfect himself in chemistry applied to agriculture under some of her celebrated teachers. His first letter appears in present number, dated Leipsic. His observations there will add much to the interest of our coming volume.

In conclusion, while we intend to do all in our power to make the Farm Journal acceptable to our subscribers all over the State, we trust they will also lend us a helping hand, not only in contributing articles occasionally for its pages, but also aid us in extending its circulation and getting up clubs in their respective neighborhoods.

We shall send the present number with this object to some who have not heretofore been receiving it.

Work for the Month.

FARM:—Stock requires particular attention. Give sufficient shelter, some variety in their food, free and convenient access to water, and have a lump of rock salt in the yard for them to go to, which is much better and more economical than salting at stated times. Cut up straw, hay and corn fodder; the saving by this will more than pay for a machine, in one winter. Keep cows at night in warm, well ventilated stables, well furnished with litter, and turn out in fine weather. Use the cattle card daily, particularly on heifers and young stock; feed once a day, at least, with roots, cabbage, &c., and a little meal; milk before feeding, to avoid taste of turnips, &c., in milk and butter; accustom calves to the halter, by being regularly tied up at nights in stalls; give extra food to working oxen; have corn ground in cob for feeding; attend to manure in yard as directed last month; protect all tools and vehicles from weather; haul lime, ashes, and such other fertilizers as may be wanted the coming season. Sheep should have good shedding, and be fed, besides good hay, with oats daily, and also roots, sufficient to keep them in good thriving condition.—There is no gain at lambing time from sheep poorly kept through the winter; they should always have access to water and salt at their pleasure. At leisure times, and in wet weather, make plain gates to substitute for bars all over the farm; there is great economy in this. Give attention to poultry. Let them have a warm house to go to, with some refuse meat, grain, sand and ashes always at hand. A few well kept will pay better than a large number running at large and uncared for.

FRUIT ORCHARD:—But little is to be said, farther than directions for last month, under this head. Remove all long grass and rubbish from trees, which attract mice. Bank up earth as before recommended. Arrange plan of orchard and fruit garden for spring planting; select at this leisure season, from fruit books and other sources, what varieties will probably be wanted; provide fencing materials, and have them ready for early use; cut down worn-out and decayed apple trees; provide stakes and tallies for trees; plant the orchard on paper in winter, at leisure, and thus expedite business in spring; spread lime over old orchards; moderate pruning may be attended to in this month; dig in Guano or short manure, to promote vigorous growth.

VEGETABLE GARDEN:—Attend to directions of last month; keep a close watch on frames, so as not to force into growth or injure by exposure; attend to composts, and procure materials for forcing beds in spring; repair sash, and make mats of straw for covering in cold nights; provide a full supply of bean poles, pea sticks, &c.; procure what gardening tools may be wanted, and anticipate the working season.

FLOWER GARDEN:—If the hints given out the previous month have been attended to, there will be little to do this month in the flower garden. Protection should be given at once to all tender roses and shrubs requiring it. Plants in windows should be carefully watched, and avoid too frequent watering. A good watering when necessary, is much better than constant wetting. That pest the Green Fly, can be kept under by occasionally syringing or immersing in tobacco water, made by steeping tobacco stems in water for twenty-four hours.

Orange and Lemon trees in cellar, should have fresh air admitted when weather is open; water only when dry. Plants in cold frame should have air every fine day. They are very liable to be injured by excess of moisture.

CULTURE OF HOLLYHOCKS.

The various tinted single Hollyhock and enormous Sunflower (*Helianthus annuus*) so frequently seen about the farmer's domicile, particularly in places remote from the influence of Horticultural Societies, are always suggestive to us of the early settlement of the country, and the existence, though in an unimproved and uncultivated form, of a latent spark of love for flowers, which, we believe, to be natural more or less with every one.

They are often the first results of the commencement by the emigrant's wife of a flower garden, and are also often seen, as is an occasional log cabin in the older settlements. Growing without care or attention, and without infringing on pressing and necessary duties, their gaudy colors and gaunt, giant forms are reared, making the first inroad upon, and contrast with, rough uncultivated nature around them, seeming like the vanguards of civilization. Are there any other flowers so universally cultivated at farm houses? We think not, and rude and homely as they may seem to more refined and cultivated tastes, we always view them with interest, as the precursors of something better, and rejoice to see them. All the happy moral influences of flowers, the attractions of home, and sympathetic love of nature in any form, which is found in children especially, may be, and no doubt are, often associated to some extent with the despised Hollyhock.

Like the lilac bush, its familiar face may recall the recollection of many a happy day around the old homestead cottage, and its lively image suggest wholesome thoughts and feelings in many a lonely hour. We would not decry even the Hollyhock. It has its place and its time, where it is appropriate, and becoming and useful, which is not in a city garden to be shamed of its rusticity by the rich and gorgeous specimens which wealth has collected from abroad, but rather as an accompaniment of the sequestered cabin and secluded country school and farm house. There let it remain. Our object in commencing this article was, however, to speak of the improved or double Hollyhock, which has become so fashionable of late in England, and which bids fair to rival the dahlia. Heavy premiums are awarded to it at the Horticultural Exhibitions, and there is a lively competition among hollyhock growers. W. Chater has been the most successful grower and exhibitor thus far, and has sold some of his choice seedlings at several guineas each. He has one acre entirely devoted to them, making a rich and splendid display. Their bloom generally precedes the dahlia, thus keeping up an agreeable succession. Many of the improved Hollyhocks have very double flowers, entirely concealing the centre, semi-spherical in shape with closely arranged petals, and an even, regular outside edge, and are also quite dwarf in habit. Forming a regular, tapering spike of flowers, surrounding the stem and concealing almost entirely the leaves, they are both unique and beautiful, and embrace nearly every shade of color

from almost black to pure white. In fact there is as much difference between our *old favorites* and the *improved* Hollyhock, as between the unimproved specimen of a cow in our last number and the delicate limbs and amiable countenance of a modern Short-Horn; a comparison which our lady readers will no doubt appreciate. We have imported from Chater some of his prize plants, which have bloomed finely in our grounds, and have also raised a considerable number from selected English seed, some of which have proved quite equal to the others. We quote in another column an article from a recent number of the London Gardeners' Chronicle, explaining fully their rearing and management. Our choicest flowers have proved to be Obscura, lilac blossom; Waldron Gem, dark red; Perfecta, pure white; Incomparable, light lilac, maroon centre, shaded with pink; Bride, pure white, large flower; Lady Franklin, white, (deep pink centre;) Kossuth, dark red, flower very large, full centre; Madame Kossuth, maroon and white, three feet high, very full and double; and about a dozen others almost equally good.

Alderney Cows and James Gowen's Address.

We copy in another column from the New England Farmer, a statement from Elijah M. Read, of Massachusetts, respecting the profitable yield of his imported Alderney cow. The editor of the New England Farmer says, "it will be received by all who know him without any grain of allowance." A large amount of similar testimony can be given by others who, themselves, have proved the excellence of the Alderney breed. While they cannot be compared with the Durhams in many respects, they have merits of their own, which, in certain situations, and for certain purposes, will always make them valuable. As a *general thing*, more butter can be made from their milk than from any other breed. The cows are kind and docile, keep in good condition on a small amount of food, fatten very easily when off their milk, are fine in the bone, and of good form. Their beef is also excellent. We speak of the "improved Alderney," not improved by crossing with another breed, but by selecting the best specimens of their own, and which after being pursued with great care and skill for many years in their native Isle of Jersey, has resulted in the present very desirable Jersey cow. As regards their comparative value for the dairy, from the *uncertainty* of securing deep milkers from other *pure* breeds, it is not improbable, but very likely, that a herd of 30 Alderney cows would make more butter, at *less cost*, in a twelvemonth, than the same number of any other breed, selected indiscriminately. We have been much surprised, as have been many others, on reading an address by James Gowen, delivered at the Mercer County Exhibition the present fall, to find some sweeping assertions respecting this breed, entirely at variance with the positive knowledge of many farmers who have *tried* them. From his mentioning the improved Alderney cow as having been improved by a mixture with the *other* breeds, and which would make her not an Alderney at all, but something else, we infer he is not aware of what has been done by scientific breeders in her native island, through a course of years, to improve her original form, and at the same time preserve the

breed pure and distinct. No doubt some mongrel nondescript has been in his mind's eye, when he penned the following: "In habit, constitution, size, milking and feeding, the Alderneys are all unfit for a farmer." "The cry is they give rich milk and make yellow butter, so does almost every other hide bound, ricketty cow, that may be picked up along the lanes or road side, give rich or thick milk, chiefly because she gives so little, and by consequence that little will make more cream than a similar quantity would, of milk taken from a twenty to a thirty quart a day cow."

We have owned cows which gave very little milk, and at the same time very thin milk. That the quality is *necessarily* rich from a small quantity is no more correct than that it should be necessarily thin from a large quantity, and it is a new idea to us that an old, ricketty, hide bound cow from the roadside and with perhaps a scanty pittance of food hardly sufficient to support life, should be cited as an instance of yielding rich milk. From what is it secreted? Deep milkers are generally thin in flesh, but they require nourishing food and plenty of it. A *fat* cow in the period of *deep* milking is a rare occurrence. J. Gowen also in another part of his address says, "the Alderneys are such hard feeders, it is impossible to get beef on them." We hope to hear from some who have *experience* on this point as it is different from their general reputation.

Chester County Beef and Fat Cattle.

On recurring to the market reports of the prices of Fat Cattle, at the yards of both New York and Philadelphia, any week in the year, it will be observed Chester county fed beef always rates a little higher per 100 lbs. than that from any other quarter, and it is a common remark that the tenderest and most juicy ribs and sirloins which grace the tables of the good livers in those cities, are from Chester county, Pa. Our farmers expect to get a little more for their fat cattle than the ordinary market prices, and the Butchers are generally willing to give it. The enquiry is often made, why is this? Although some of our best farmers *occasionally* raise and feed their own cattle, yet the supply of what are called stock cattle, generally comes from the west, Ohio, Indiana, and Illinois. These are brought into suitable parts of the county, for sale in the fall of the year generally, when they are bought up by the farmers, well wintered, sometimes when in good order, stall fed, and the following season are allowed to receive a good coat of Pennsylvania fat from our rich pastures, being made ready for the butcher in from 9 to 12 months from the time they are first purchased. The cause of their superiority may be owing first, to their being well *selected*. Chester county farmers are generally good judges of stock. They can see even in a poor bullock, certain fattening *tendencies*, and detect a disposition to lay it on in the proper places; they judge by fineness of bone, good form, small amount of offal, the skin, and hair, and countenance, that an animal will be a quiet feeder, that its beef will be juicy, and well interlarded with fat, instead of a coarse, fibrous, and what is called too *fleshy* a texture. This we think explains the matter in part. Then again the *quality* of the pastures is almost unrivalled. The Green Grass, (*Poa Pratensis*), grows *naturally* on our soils, even to the top of our high-

est hills, and is admitted by all to make the strongest and best feeding pasture: stock prefer it to anything else. On what are called our grazing farms, the larger part is retained in this kind of grass, for periods of from 10 to 30 years, without requiring to be ploughed, and rather improving in value yearly. The sod becomes so firm, stiff and compact that every thing else is smothered out, and the green grass, and white clover sometimes with it, have entire possession. Once in a few years these fields receive a top dressing of lime, about 50 bushels to the acre, and an occasional dressing of plaster in the winter or spring, which is all they require, and which seems to give them renewed luxuriance. Red Clover and Timothy usually sown with the wheat, and mowed for two or three years, are then pretty much smothered out by this spontaneous growth of the invaluable Green Grass.

3d. Our farmers generally avoid stocking too heavy, by which cattle have sufficient food even in unfavorably dry seasons, and in ordinary ones have a great abundance. We could show fields in this vicinity, in the middle of winter, where there often appears to be enough grass about in clumps to keep considerable stock in thriving condition, and indeed it is often found, that where a portion are kept out all winter on these old pastures, they are in better condition in the spring, than those which have been confined to the barn yard, exclusively on dry fodder and hay.

Improved breeds of Cattle and Sheep attain in Chester county, a size and maturity, which has surprised many from a distance. Here seems to be especially the home of the Short Horns and Southdowns. The latter which from their great hardiness, are especially adapted for thin soils, and scanty pastures, attain on our fertile hills, extraordinary size and fatness. Chester county stock is becoming celebrated all over the country, and within a few months, has been sent from this vicinity, to various other States even as far South as Georgia.

Experiments in top dressing for Hay.

W. Clift of Stonington, Ct., has given through the Agricultor an interesting account of his experiments in top dressing for hay. We have reduced the lots experimented upon to acres, for convenience and brevity.

Lot No. 1, was left without dressing as a standard for comparison, and produced 3920 lbs.

No. 2, received twenty cart loads of cow-stable manure, valued at \$12, and produced 4880 lbs. Increase 960 lbs., which at the rate of ten dollars per ton is worth \$4.80. Net loss per acre \$7.20.

No. 3, was dressed with eighty pounds of prepared superphosphate of lime, costing \$2.00, and yielded 4960 lbs. Increase 1040 lbs. worth \$5.20. Net gain, \$3.20.

No. 4, had thirty-two bushels of ashes, worth \$4. This gave no increase.

No. 5, was treated with twenty pounds of guano, mixed with three bushels of charcoal cinders. Cost, \$2. Produce 4000 lbs. Increase 80 lbs. Net loss, \$1.60.

No. 6, had twenty-five pounds of guano mixed in the same way, worth \$2.50. Yield, 4720 lbs. Increase 800 lbs. Net gain \$1.50.

No. 7, was dressed with superphosphate of lime of home manufacture, made from Proff. Way's receipt, value \$4. Produce 5280 lbs. Gain 1360 lbs. Net gain \$2.80.

No. 8, received eight bushels of droppings from the hen house, previously mixed with plaster, and charcoal cinders. Value \$4. Produce 5440 lbs. Increase 1520 Net gain \$3.60.

It will be observed that Mr. Clift makes no estimate for the value of the manure, beyond the first crop. This must necessarily be considerable, and may in some degree vary the result in another season. It however adds to the intrinsic value of manure to the farmer. The immediate gain per acre, it will be seen, was, in most instances, over fifty per cent on the outlay.

Many of our readers have, doubtless tried experiments similar to the above. Will they not give us the result of their experience?

Extraordinary Product of Butter from an Alderney Cow.

Thos. Motley, jr., gives the following statement of the amount of butter made by his imported Jersey Cow, "Flora," in a recent number of the Boston Cultivator.

She has had no grain or meal, or any food whatever besides grass, with this exception: in August, September and part of October I gave her, as I gave all my other cows, a feed of corn stalks morning and evening, as my pastures were almost dried up. I truly believe that with a good rich pasture, she would have done better without the corn fodder, than in my pasture with corn fodder. I have now taken her from pasture, and am feeding with hay and ruta bagas, and will give you a statement sometime hence of what she makes. We commenced saving the milk for cream May 10th—first churning May 18th; but this was only seven days milk.

	lbs.	oz.		lbs.	oz.
May 18	12	14	Aug. 24	11	12
" 25	13	08	" 31	11	12
June 1	14	00	Sept. 7	11	00
" 8	14	00	" 14	11	08
" 15	14	00	" 21	11	08
" 22	13	13	" 28	11	04
" 29	13	00	Oct. 5	10	12
July 6	12	12	" 12	11	08
" 13	12	04	" 19	11	12
" 20	12	04	" 26	12	00
" 27	11	08	Nov. 2	11	12
Aug. 3	11	12	" 9	11	03
" 10	11	12			
" 17	11	04		316	07
Average		12.3 for 26 weeks.			

To raise Chestnuts.

To the prevailing disposition to neglect the good within our reach, and long for something more difficult to attain, must we attribute the neglect to cultivate and improve the American Chestnut. As a shade tree *merely*, it is hardly surpassed for the lawn when it has room, growing to a magnificent size, with large umbrageous branches and beautiful tassels. It also grows rapidly, and is excellent for grouping.

It is however of the nuts chiefly we intended to speak, and then quote, as appropriate, the following excellent article from the Iowa Farmer. Boiled chestnuts, whatever may be said about the luxury of cracking almonds and shellbarks around the fire place of a winter's evening, surpasses, in our opinion, them and all other nuts. By selecting large and fine specimens for seed, they can no doubt be improved in size and quality. French and

Spanish Chestnuts sell in Philadelphia market, at from 25 to 50 cents $\frac{1}{2}$ quart, but are not so sweet and palatable to our taste as our native variety. They are all however well worthy of more extensive cultivation. The Chestnut tree lives to a great age.

The Tortmouth Chestnut mentioned by Loudon, is probably more than eight hundred years old, having been growing before the conquest in 1066.

There is no difficulty in raising chestnuts from the seed, if proper precautions are taken in gathering, preserving and planting the seed. The chestnuts which are designed for planting should be gathered as soon as they are fully ripe, and the largest and plumpest should be selected. They should be immediately placed in mould or sifted earth and put away in the cellar, or buried in the ground, out of the way of the frost, rats and children. Be sure to use earth enough about them to prevent their heating. When the spring opens, prepare a piece of ground, by pulverizing and plowing it deeply, and plant the seed in rows three feet apart in the rows. They should not be covered deep, else they will rot in the ground. Half an inch of covering will answer every purpose. If you wish them to grow straight and thriftily, they must be well hoed after planting. They may remain in the nursery rows two or three years, but if more than two years the tap root should be cut away with a sharp spade. They will then throw out side-roots, and will endure transplanting the next year all the better. There is no difficulty in transplanting chestnuts, if the tap root has been cut off a year or two before. We transplanted six trees last spring from a nursery in this neighborhood, and they have since made an average growth of three feet.

Many people complain that their chestnuts are stunted in their growth, or that they grow crooked. This may be remedied by cutting them down even with the ground so soon as they have become stout enough. They will then throw up a nice, straight shoot, that will grow very rapidly, and very little if any time is lost in making a large and healthy tree. The whole nourishment from the roots, however, must be thrown into the one shoot, by cutting or rubbing all others off.

Profits and Pleasures of Agriculture.

Extracts from David Taggart's Address before the Northumberland County Exhibition, Oct. 19, 1853.

Agriculture is *profitable*, for it is the true source of wealth not only to individuals, but to nations. Gold and silver, because scarce, and in times past hard to be got, have been chosen as the representatives of the real wealth of the world yet of themselves comparatively useless. To a man on a desert island, yonder bag of wheat or yellow corn were worth more than mountains of glittering gold! The one possesses substantial intrinsic value of its own; the other would be worth less than the fertile dust beneath his feet. Agriculture is *profitable*, for it affords an almost certain livelihood, and although it does not furnish the opportunities for rapid wealth and sudden speculation, neither is it subject to those sad reverses, which too often shake the worlds of manufactures and commerce to their centres.

It is *pleasant*—in my humble judgment, by far the *most* pleasant of all the pursuits of men. This is evinced by the fact that men of all callings, merchants, manufacturers, lawyers, doctors, (I was going to add, editors and preachers, but they seldom get rich, probably owing to their honesty,) when they have gathered wealth, by the economy and toil of early and middle life, turn to this, as pasture for their descending years. If I were the owner of waving corn fields and lowing herds, "I would not call the king my uncle." I would not envy the lot of any man on earth, not even the aspiring politician, the patriotic office seeker, who sighs for an opportunity to serve his country, and mourns the ingratitude that refuses the opportunity—not even the pale student, who pores over musty books at midnight, with dim eyes, bent frame and wrinkled brow—dim, bent and wrinkled before

their time—nor the adventurous merchant whose all may be overwhelmed by a dashing wave—nor the soldier, whose footsteps to glory, have been through fields of blood—over carcasses which his "red right hand" has robbed of happiness, hope and life! I would not envy the monarch on his throne, for I should be monarch of a realm, which brought no cares, but such as made me happy.

It is *honorable*, because it is essential, healthful, profitable and pleasant—it is honorable, because the good and great, the high and mighty ones of the earth, have followed it for a pastime or a profession. George Washington was a farmer, and during all his life no conversation pleased him so well as that which referred to Agriculture. Andrew Jackson and Henry Clay were farmers, and Hermitage and Ashland will be waned with the weight of ten thousand years, before their names shall be forgotten! Daniel Webster was a farmer, and happier among the beautiful herds of Marshfield, than when Senates and Cabinets hung upon his words, or Austrian Ministers wilted before his pen.

When Rome, afterwards the mightiest city of ancient times, was girt about by her foes, when the conquering armies of Æqui and Volsci were pressing her to the verge of destruction, she summoned a plowman from his plow, and invested him with more than regal power. That plowman's word became the absolute law of the Republic. The Conscript Fathers bowed to his dictation, and proud patricians obeyed without questioning. The jewelled fingers of Rome's loftiest nobles were pointed, not in scorn, but admiration at the broad brow of the sun burnt farmer. By his wisdom and courage the Republic was saved, and Cincinnatus returned from victorious armies and shouting multitudes to his crops and his cattle!

Then shall this ancient, essential, healthful, profitable, pleasant and honorable Art *stand still*, while every other Art and Science is pressing on with rapid footsteps to startling results and mighty achievements? While Manufacturers and Commerce build up proud cities, and adorn them with the trophies of their success, shall the tillers of the soil follow wooden plows in the same furrows that were turned by their ancestors, some hundred years ago? While the Lightning bears our messages, and an element not less mighty propels our cars upon land, and our ships upon the sea, bearing the products of our fields with ten times the celerity as when our fathers or grandfathers occupied the places we now hold, shall those products be reared with the same toil and of no better quality than when they reared them?

The answer has gone forth, not from the tiller of the soil alone, but from the Bench, the Bar, the Preacher's study, the Physician's office, and the Mechanic's workshop, for all are willing to unite in the delightful task of improving the cultivation of the fields, and thereby improving every man's means of living, his convenience comfort and happiness—they have answered—you have answered by your presence here to-day: "Agriculture shall not stand still. It shall keep pace with its sister arts."

How shall it be made to keep pace? By the establishment of societies like this—by the foundation and circulation of papers devoted to it; by men learning not only from their own experience, but from the experience of all other men engaged in the same pursuit. It is this combination of mind and interchange of experience, which give to civilized men men having a written language, their immeasurable superiority over savages, whose thoughts and experiments can only be transmitted to posterity by word of mouth.

If any man doubts the efficiency of the agents I have spoken of, let him go first into a country where Agricultural Societies and Agricultural Presses have been at work for a number of years, and then into a region where such things

are unknown—observe the difference in everything about them; in their fields, in their dwellings, orchards, gardens.

A person coming from the highly cultivated fields of England, or from the finer portions of New York, or our own South Eastern Counties, might find even among us, some very slow and awkward ways of doing things. He might see some poor ploughs, and clumsy harrows. He might tell of a drilling machine at home, that would put in more grain in a day than could be done by hand in two or three days, and do it much better too; or of an implement that would cut down more wheat, rye, oats, or grass in one day, with a certain number of hands, than twice the number could do in twice the time in the ordinary way. He might tell of well bred horses, more valuable than three or four common animals; or of an improved cow or bull, that he would not trade for a whole herd of such peaked, scraggy creatures, as obtain their winter's living from some of our farmer's dung piles.--- Now there is only one way to put an end to this bragging, as far as we are concerned, and I think, Sir, we are fast coming to it. I mean by this friendly strife, this emulation among ourselves, to excel each other, in rearing animals, grain, vegetables and fruit, and soon we shall be able to go into regions more backward than our own, and make the same brags that this progressive gentleman has been making to us.

Penna. Poultry Society's Exhibition.

The following are the premiums awarded by the various Committees:

CLASS NO. 1 TO NO. 4.

For Buff Shanghais, over 1 year, Robert Burrell, \$5; John McGowen, \$3. Under 1 year, S. C. Radford, \$4, Jonathan Dorwart, \$2.

For White Shanghais, over 1 year, Harman Osler, \$5; Dr. Wm. Gibson, \$3. Under 1 year, F. Brown, 4; E. Pratt \$2.

For Black Shanghais, over 1 year, C. J. Wolbert, \$5. Under 1 year, C. J. Wolbert, 4; Thos. T. Tasker, \$2.

For Gray Shanghais, Wm. Hammond, two premiums, \$5 and \$2.

For Dramah Pootra, over 1 year, Dr. J. T. Crabbe, \$5; J. S. Lippincott, \$3. Under 1 year, Dr. J. T. Crabbe, \$4; Rittenhouse Fraley, \$2.

The Cochins, over 1 year, John Sherwood, \$5; no second premium. Under 1 year, Dr. J. T. Crabbe, \$4; Jonathan Dorwart, \$2.

For Chittagongs, Robert Burwell, \$5, John J. Hoopes, \$4.

For Marsh Shanghais, under 1 year, Henry Bowman, \$4. S. C. Radford, \$2.

Fowls contributed by the following named persons were deemed worthy of special notice:---R. Jackson, I. Killion, Wm. M. Coffin, Henry Bowman, C. S. Smith, Jr., R. Burwell, L. H. Twaddell, John Sturges, M. Happersett, L. J. Altemus, Jno. B. Perry, E. Lorory, G. W. Holmes, Wm. K. Cox, Wm. H. Stewart, John G. Palmer, J. S. Lippincott, D. Moreland, John Muloney, W. W. Clarke, Capt. Marston, U. S. Navy, F. B. Tiers, Jos. Brady, George Murgatroyde, Wm. R. Marston, C. J. Wolbert, G. & C. K. Engle, John Dieble, S. W. Taylor, John Rinks, and Jonathan Dorwart.

CLASS NO 5. TO NO. 13.

For Booby Fowls, over 1 year, Wm. S. Strohbine, \$5.

For Maylay Fowls, under 1 year, W. Baldwin, \$4.

For Black Spanish, over 1 year, R. Fraley, \$5; Harman Osler, \$3. Under 1 year, Wm. Baldwin, \$4; R. Fraley, \$2.

For Dorkings, R. Fraley, \$5.

For Black Java, under 1 year, Dr. W. Gibson, \$4.

For Dominiques, over 1 year, J. R. Supplee, \$5; Jas. Killion, \$3. Under 1 year, R. Fraley, 4; J. R. Supplee, \$2.

For Jersey Blues, over 1 year, C. G. Carson, \$5.

Special notices were made of young Spanish Stags belonging to Wm. Baldwin and Jas. Killion

CLASS NO. 14 TO 25.

For Game Fowls over 1 year, F. G. Wolbert, \$5; do., \$3. Under 1 year, Wm. Cox, Jr., \$4; E. A. Rockhill, \$2.

For Polands, over 1 year, A. Holden, \$5; L. H. Twaddell, \$3. Under 1 year, L. H. Twaddell, \$4.

For Golden Crested Hamburgs, over 1 year, P. R. Freas, \$5. Under 1 year, do., \$4.

For Bolton Grays, over 1 year, A. Holden, \$5. Under 1 year, R. S. Nelson, \$4.

For Golden Pheasants, over 1 year, A. Holden, \$5.

For Silver Pheasant, over 1 year, R. S. Nelson, \$5. Under 1 year, do., \$4.

For Bantams, over 1 year, Wm. Leonard, \$5.

For Silver Seabrights, over 1 year, C. W. Bender, \$4.

Pheasant Bantams, over 1 year, Henry Mott, \$5.

Black Bantams, under 1 year, R. Fraley, \$4.

Japan Silkeys, over 1 year, \$5. H. Bowman \$3.

Frizzles, under 1 year, Wm. R. Cox, \$4; John Dieble, \$2.

Capons, J. S. Lippincott, \$5; G. W. Holme \$3.

Guineas, over 1 year, T. J. Folwell, \$5.

Fowls contributed by L. H. Twaddell, Jesse Williams and William C. Fisher, are awarded special notices.

CLASS NO. 26 TO NO 28.

For Domestic Turkeys, over 1 year, Dr. Wm. Gibson, \$5. Under 1 year, L. H. Twaddell, \$4 S. C. Radford, \$2.

Wild Geese, (in the pool,) J. R. Supplee, \$5.

Domestic Geese, S. C. Radford, \$5; Henry Bowman, \$3.

Musovy Ducks, over 1 year, Wm. Wister, \$5; D. W. Prescott, \$3. Under 1 year, H. Bowman, \$4; S. C. Radford, \$2.

Aylesbury, over 1 year, Dr. Wm. Gibson, \$5; George Drayton \$3. Under 1 year, S. C. Radford, \$4; do., \$2.

Common Ducks, over 1 year, Jesse Williams, \$5. Under 1 year, H. Bowman, \$4; John G. Palmer, \$2.

Mule Ducks, under 1 year, H. Bowman, \$4; S. C. Radford, \$2.

White Turkeys, special premiums of \$3.

CLASS NO. 29.

Pigeons—For best display, E. P. Lowry, \$5; for second best, Peter Barker, \$2.

A display of Magpies, by Wm. W. Clark; Moor Pigeons, by E. Lowry, and Nuns, by P. Barker, as reported, are worthy of special notice.

CLASS NO. 30.

Canaries—Wm. Johnson, for best display, \$5; Jos. Richards, for second best display, \$2.

SPECIAL PREMIUMS.

To S. C. Radford, for the most extensive variety, \$1 75 per head.

For imported fowls—Wm. Cox Jr., \$5, game; C. & C. K. Engle, \$5, Cochins China; Jesse Williams, \$5, white Japan; Wm. Baldwin, \$5 each for white Dorkings, black Spanish and Malay; W. H. Stewart, \$3, English Pheasants; Wm. C. Leonard, \$3 each, for China Pheasants, black Bantams and California Partridges; R. L. Rutter, \$3 each, for Bengal and India Games; Jno. McGowan, \$5 for Buff Shanghais; to H. G. Hembold, \$3, for yellow and black Shanghais, crossed; B. Jackson, \$3, fine Shanghais; G. W. Holmes, \$3, buff Shanghais; George Murgatroyde, \$3, do.; H. J. Helmbold, \$3, peach Shanghais; Dr. Casper Wistar, \$3, white Ring Doves; Chas. Dyott, \$5, Canaries; William M.

Collum, two premiums, \$3 each for Shanghais; Joseph Wharton, \$3 for game; James Killion, \$2 for fancy coop; Jas. Collum, \$2, for do.; Wm. Wistar, \$3 for Game; Jas. Killion, \$3, fine display of Shanghais; William M. Collum, \$3, do.; John B. Perry, \$3 each, for Pigeons and Shanghais; Joseph Brady, \$3, and George Simlor, \$3, for game fowls.

The Executive committee return thanks to Chas. W. Bender, Esq., for the loan of Cantelo's patent Incubator, which has added so much to the interest of the exhibition.

Some of the fowls in the exhibition are so highly prized by their owners, that they cannot be purchased, Seventy-five dollars were offered and refused, for a trio of white Shanghais.

VALUE OF LIME.

Extracts from the address of the Hon. A. Hayes, of Lancaster, Pa., delivered at the Agricultural Exhibition at York, Pa., October 7, 1853.

On a visit, two years ago, to one of our least fertile townships, I was surprised at the flourishing condition of the farms, where the land was naturally so thin and unpromising. The fields were covered with a luxuriant vegetation, and the buildings, orchards and fences, proclaimed that the proprietors were well doing, and, to use an expressive phrase, lived at home. I was told that appearances, in this instance, did not deceive; that within ten years a revolution had been wrought by the use of lime; and that whereas, 15 years ago, the man who owned 40 or 50 acres of land, in that neighborhood, was sure to starve on it if he had no other resources, now, the owner of such a tract would grow rich from its products. And in fact this land, under the new plan of dressing it with lime, produced as good crops as the limestone lands in the rich valley of Pequea. There are other parts of that county, where the lands, by the application of lime, have been enhanced in value from 500 to 1000 per cent. The value, indeed, which has already been added to real property in Lancaster county, by lime, it is impossible to calculate; and yet the use of it is but fairly begun. I think it is safe to say, that, within a quarter of a century from this time, it will treble the annual production of the whole county.

More than twenty years ago, I was accustomed to pass several times a year along the road from Reading to Lancaster, and just after leaving a tract of hilly woodland, called the Forest, came, in the course of this journey, to a village, now the Borough of Adamstown. It lies in a very narrow valley, between pretty lofty hills. The soil is the red sand-stone; and it was, at that time, thin and apparently unproductive. The farms in the vicinity might have been purchased, as I have been informed, for \$10 or \$15 an acre. Ten or twelve years since they began to lime their land; and two farms, in that vicinity, have within the last three years been actually sold for \$100 an acre. This land is now as productive as any in the county. Facts like these should convince every skeptic of the value of lime. They are particularly encouraging here, when there is so much land precisely of the kind, on which the application of lime would place an enhanced value of 500 to 1000 per cent. Is there any other means by which wealth can be so certainly and speedily accumulated? The owner of a small farm, valued, say at \$1000, in two or three years, may, by an outlay of a few hundred dollars, which will be more than reimbursed in the mean time by his increased crops, find himself worth \$5000.

In view of such facts, it would be perfectly idle to enter upon the discussion of the question, (if question it may be called) whether lime is a fertilizer, or whether it is beneficial or not. Assuming that it was one of the most impor-

tant means of improving the soil—in what manner ought it to be applied?

The quality or condition of the soil must always be regarded, in determining this question. If it be one of considerable strength, already capable of producing a heavy vegetation, and is full of insect life, then, it would seem, the lime should be applied quick from the kiln and ploughed in, so that its action upon the organic substances may be exerted with energy, converting into nutritious sustenance for the crops, the vegetable as well as the living animal matters with which, in so many various forms, the soil is replete. It is known to be very destructive to grub worms, animalculæ, and insects of all descriptions, with which the ground is tenanted; and the soil is naturally made richer by their dissolution. If the soil is thin and gravelly, it may be better to apply it to the surface, as a top dressing, and after it has been for sometime slaked. Such soils are supposed to require a less quantity of lime, and show the effect of the application more strikingly than those which are stronger. While it apparently gives a greater consistency to the former, it operates upon stiff, clayey lands in such a manner as to render them mellow and friable.

Lime has also the remarkable property of attracting moisture from the atmosphere; which makes it invaluable in our dry seasons, enabling the crops to bear the effects of our long summer droughts with comparatively small injury.

But not only is there a great variety in soils, but also in the constituents of the limestone rock, and consequently in the quality of lime, which is manufactured from it: therefore, in order to reap all the benefit derivable from this substance, the limo as well as the ground should be analyzed.

There are some instances, (though these are rare,) in which lime appears to have had no effect on land. A neighbor of mine, while I was spreading lime over my ground, professed his utter want of faith in its efficacy, and on my inquiring the reason, told me he had applied lime to a farm he lived upon a few years before, lying along the river, near the borough of Washington, and he could not see, that it ever benefited his land, to the value of one silver sixpence.

Dr. ———, of Pequea valley, also informed me, that in using lime upon his farm, he had observed that in one of his fields it was perfectly inert, producing no effect at all: this lay along the Pequea creek, whereas, on the other fields of his place, it was of manifest advantage.

The true explanation of such facts, I take to be, that these soils had already abundance of lime in them; adding more was, therefore, mere superfluity. A proper analysis would have saved these persons their bootless expenditure of money, time and labor.

Chemistry, a science of modern growth, has been of incalculable service to Agriculture. It has disclosed the fact that limo enters into the composition of all plants, and especially of the cereal grains and grasses. We perceive in this a reason why the deeper soils of valleys and what are called the river bottom lands, with their rich loam, should be replete with this substance mixed with the soil. Deposited on all adjacent higher grounds by the decayed and decomposed vegetable and animal remains, it is carried down by rains and snows, in the course of ages, and left on the lower. Hence its abundance there, and its scarcity on gravelly eminences and the hill-sides. The application of chemistry to agriculture has further shown, that there are certain constituents essential to every fertile soil, though the proportions in which they exist are not determined, and can only be ascertained by many and careful experiments, made for the purpose. Those constituents are lime, potash, magnesia, soda, alumina or clay, silica or sand, humus, iron as a peroxide, chlorine, phosphoric acid, sulphuric acid, and

animal and vegetable or organic matter.

Each of these substances,—in some quantity,—must absolutely be present; an abundance or excess of any or all the rest, will not atone for the want of it. As to lime, which may appear to be receiving undue attention, it enters into the constitution of all plants and of every part of them, existing combined with various acids in the root, stalk, blade, and grain, or seed. In animals, it forms with phosphoric acid a large proportion of the bony structure. Its application, therefore, is directly beneficial to the growth of the plant, as any food, which promotes the growth of the animal is beneficial; but it is of still further benefit, by aiding the decomposition of vegetable matters in the soil, and thereby disengaging the mineral substances they contained when organized, and fitting them for the support of a new growth.

Lime is also believed to be a powerful solvent of the sand in soils, which contains many of the elements of plants; these being set free by its action, minister to the growth of vegetation. This, by many, is regarded as one of its most important properties. As a fertilizer it combines qualities not often united, being not only rapid and powerful in its action, but it is also durable. Many are the instances, in which its effects have been visible twenty years after it was applied. In this respect, it excels all other manures. In most of them, indeed, it enters more or less largely as a component part, whether they consist of animal or vegetable remains. It is a material constituent of the most costly of the concentrated fertilizers. It is recommended by its cheapness and its adaptation to all sorts of lands, for with extremely few and rare exceptions, it is never applied without essential advantage; and it is particularly commended to the farmers and land owners of York county, as affording the ready and sure means of rendering the thin, gravelly, unproductive soils of your hilly townships, as productive as those of your fat and luxuriant valleys. Though we have suggested some considerations for determining how it should be applied, yet it certainly is a characteristic of lime, that apply it how you will, whether as top-dressing or ploughed in with the seed, whether fresh from the kiln or after it has lain for weeks and months exposed to the air,—under all circumstances,—it is beneficial.

Large Deciduous Cypresses.

We find in the English Gardeners' Chronicle the following as the dimensions of what is quoted as an enormous Cypress tree, quite a *lusus nature* there. It is growing in the vicarage of Boxley, Kent: height 60 feet, the spread of the lower branches, which feather quite to the ground about 45 feet, girth 9 feet 4 inches at 2 feet from the ground, and 7 feet 3 inches at 6 feet. It stands on the edge of a small pond, in which its roots luxuriate, being natural to swampy ground. The thought occurred to us what is the girth of that magnificent specimen growing in the Bartram Garden, Philadelphia, and in a similar situation, near a small pond, if we recollect rightly. Perhaps our friend T. Meehan can inform us. In Buxton's Mexico, a cypress is alluded to, which would girth 17 yards, over fifty feet, and there were many others of equal size on the Chapultepec heights, near Mexico, some of which were sadly battered by the American cannon at the time of the storming of the fort. That our English consins should consider a tree of nine feet girth, worthy of a newspaper paragraph, shows at least that they have not been to America, and reminds us of the Englishman, who was relating with great gusto to his American visitor the *natural* wonders of their Island, and among other things, as a *fact*, whether he believed it or

not, that their great river, the Thames, was really 150 miles long. He had never heard of that small stream, the Mississippi, over 2000 miles in length.

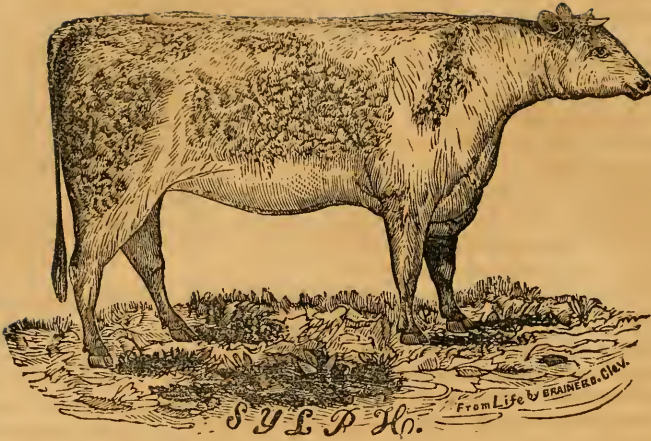
Durham Bull "Napier."

Our friend John Worth, near West Chester, who is becoming somewhat celebrated as a breeder of improved cattle and sheep, has within a few days past disposed of this magnificent Bull, to William McCoy, Esq., Pendleton county, Virginia. He has already started and we hope to hear of his safe arrival at his new quarters. "Napier" was a very stylish Bull, and took our fancy, when we first saw him, so much that we engaged an artist to draw his portrait, some months ago, as a model Bull in many points, and we hope to have it engraved for the Farm Journal. He is coming three years old, was bred by H. Vail of New York, who sold him to T. P. Remington, of Philadelphia, from whom he was purchased by John Worth. He has some of the Bates blood, now so highly valued. His dam was Fanny, got by Meteor, out of the celebrated Oxford cow. We assure the farmers of Pendleton county, they have got a valuable animal.

Tree of Ten Thousand Images.

If we had not heard so many marvellous accounts of the performances and skill of Japanese Gardeners and Florists, we should discredit the subjoined account at once, which is taken from the English Gardeners' Chronicle. When however it is related as a fact, in the Botanical Register, of a dwarf tree being exhibited at Jeddo in a lacquered box with branches, occupying ten square inches, we are prepared for any thing else. Gardening in China and Japan, if accounts are true, has attained a point, to which there is not even an *approximation* elsewhere. It cannot even be compared with anything we know, because we know of nothing like it. Trees and plants with them seem to be like clay in the hands of a potter, forced or stunted in growth and habit, twisted, inverted or moulded into fantastic shapes, to suit the fancy. The article is as follows:

I have lately become acquainted with a young man, by birth a budhist, and a native of Mongol Tartary, now converted to Christianity. He told me that he had been a pilgrimage with his father, when a boy, to the tree of 10,000 images, an account of which is given in Hue's Travels in Tartary. I remember seeing an article relating to it in your columns, in which the truth of the story was doubted. I have, therefore, thought it might be interesting to you to hear from an eye-witness, and one whose word I have no reason to doubt, his account of this marvellous production. His description, which I wrote down from his own dictation, is as follows, viz:—The tree is near the wall of China, in the city of Cayho (?); the height of the tree is 8 (que 80) feet, and the trunk five men could not embrace. The leaves are of different colors, which no doubt has been done by the Llamas; every leaf has a character and the same in each, which would signify in all the Arabic writings, T— In August the tree begins to produce leaves, and they spread the same as feathers, which are also of different colors; and this tree exists now as the principle object of worship in Tartary, and which people visit on pilgrimage. From his description of the leaf I thought it resembled the Magnolia and in showing him one, he immediately identified it. He said that the character was caused by some kind of grafting when the tree was young, and that the leaf has it from its earliest appearance. He also assured me that he could collect leaves in the same manner as on the tree. Though this account differs in some points from Hue's it certainly confirms it to a great extent.—*Samuel Gurney, jun.*

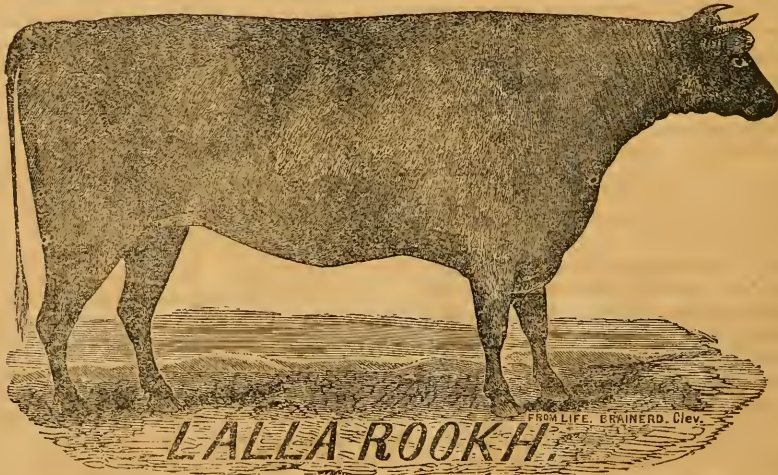


SYLPH,

A Short Horn Heifer, one year old last April, bred and owned by Seth A. Bushnell, of Hartford, Trumbull county, Ohio. Sylph was sired by Pontiac, (sire and dam imported.) Her dam was Twin by Ulester, by England, by Matchem, sired by Matchem out of Lady Lodi. Matchem was got by Request, an imported bull by Request out of Favorite, which was the line of Comet, out of Flora by Favorite. Lady Lodi was got by Request out of Young Beauty, bred by Charles Henry Hall, Esq., of Hastam. Her sire was Request by Favorite, a son of old Favorite by Comet. Her dam was Flora, by George, by Phenomenon out of Phillis by Petrarch.

The dam of England was by Young Request, a full brother of Matchem out of Young Lady Floyd, whose line was Favorite from Comet, bred by John Mealy, of Durham, England.

Ulester's dam was sired by imported Tallyrand, owned by Michael Sullivant, Esq., of Columbus. [See pedigree of Tallyrand.]



LALLA ROOKH.

The property of Seth A. Bushnell, of Hartford, Trumbull county, Ohio, is a Short Horn Heifer, 2 years old last April, of a dark red color, ample chest and beautiful deer like expression, which the artist has well portrayed in the cut.

She was sired by Tecumseh, by Favorite, (No. 2009) by Wye Comet, (1591) imported, dam Rosa by Young Denton, (963) g. dam Tuberosa (imported) by North Star, (459) gr. g. dam Tuberosa by Cripple, (173) gr. gr. g. dam Tul. p. by Comet, (155) gr. gr. g. dam Cherry by Ludrone, gr. gr. gr. g. dam by Danby, (196) gr. gr. gr. g. dam by Young Favorite. (See Herd Book, vol. 1 and 3.)

The dam of Tecumseh was Miss Lawrence, bred in England by Mr. Booth, of Smedley Royal, Lancashire, imported in 1835 by Samuef Allen, of New York. Miss Lawrence was got by Young Comet, (906.) (See pedigree of Miss Lawrence, American Herd Book, vol. 1st.)

The dam of Lalla Rookh was Ruby, by Ulester, by England, by Matchem, by Matchem out of Lady Lodi. Matchem was got by Request, an imported bull by Request out of Favorite, which was the line of Comet out of Flora by Favorite. Flora was a valuable breeder and great milker. Lady Lodi was got by Request out of Young Beauty, bred by Charles Henry Hall, Esq., of Hastam. Her sire was Request by Favorite, a son of old Favorite by Comet. Her dam was Flora by George, by Phenomenon out of Phillis by Petrarch.

The dam of England was by Young Request, a full brother of Matchem out of Young Lady Floyd, whose line was Favorite from Comet, bred by John Mealy of Durham, England.

Ulester's dam was sired by imported Tallyrand, owned by Michael Sullivant, Esq., of Columbus.

The dam of Ruby was Stary, a very superior milker.



HESSIAN FLY.

Agreeably to promise in last number, and the request of our friend J. H. Alexander, we give engravings of the male and female Hessian Fly—with a detailed description, of its different stages, and habits. We think it can be easily recognized by the close observer.

The first scientific description of the Hessian fly was published in the Journal of the Academy of Natural Sciences of Philadelphia, for July, 1817, No. 3. i. 45, by the late distinguished entomologist, Thomas Say. He there gives it the systematic name of the *cecidomyia destructor*; and to his description adds a few remarks relative to its habits, and furnishes, also, an account of another insect, by which the fly is often destroyed. Without going into a minute and tedious technical description, the following account is offered as probably sufficient to enable an observer to identify the insect in its various transformations: the Hessian fly is a two winged insect, with head, eyes and thorax black; the head is small and depressed; the palpi, or mouth feelers, are three or four jointed—the basal one being the smallest; the antennæ are about half as long as the body, and consist each of 14 to 17 oval joints, beside the basal joint, which appears double; the wings are large, hairy, rounded at the tip, and have each two or three longitudinal nervures; the abdomen is of a tawny red, and furnished, irregularly, with many black hairs; consists of seven rings or segments, besides the ovipositor, which is of two sides, and of a rose-red colour; the ovipositor, when extended to the utmost, is about one-third as long as the abdomen; length of the body, from the front of the head to the end of the abdomen, about one-eighth of an inch; the legs are long and slender, pale red, and covered sparsely with dark hair. The male is equal in size to the female, but generally less black, with antennæ somewhat longer, and about three-fourths the length of the body. The joints of the antennæ are globular, and slightly separated from each other. Several other species of the genus *cecidomyia*, or one closely allied to it, are common in this region. But the Hessian fly is the largest and darkest of our species with which I am acquainted.

The eggs are laid in the long creases or furrows of the upper surface of the leaves,—i. e., the blade or scrap-shaped part—the young wheat plant.

While depositing her eggs, the insect starts with her head towards the point or extremity of the leaf, and at various distances from the point and where the leaf joins and surrounds the stalk. The number found on a single leaf varies from a single egg up to thirty, or even more. The egg is about a fifteenth of an inch long, cylindrical, rounded at the ends, glossy and translucent, of a pale red colour, becoming in a few hours, irregularly spotted with deeper red. Between its exclusion and its hatching, these red spots are continually

changing in number, size, and position; and sometimes nearly all disappear. A little while before hatching, two lateral rows of opaque white spots about ten in number, can be seen in each egg. In four days, more or less, according to the weather, the egg is hatched; the little wrinkled maggot, or larva creeps out of the delicate membranous egg-skin, crawls down the leaf, enters the sheath, and proceeds along the stalk, usually as far as the next joint below. Here it fastens, lengthwise and head downwards, to the tender stalk and lives upon the sap. It does not gnaw the stalk, nor does it enter the central cavity thereof; but, as the larva increases in size, it gradually becomes imbedded in the substance of the stalk. After taking its station the larva moves no more, gradually loses its reddish colour and wrinkled appearance, becomes plump and torpid, is at first semi-translucent, and then more and more clouded with internal white spots; and when near maturity, the middle of the intestinal parts is of a greenish colour. In five or six weeks—varying with the season—the larva begins to turn brown, and soon becomes of a bright chesnut colour. In that state, the insect bears some resemblance to a flax-seed; and many observers speak of this as the *flax-seed* state. The larva has now become a chrysalis, or pupa, and takes no more food. The pupa within gradually cleaves off from the outer skin, and, in the course of two or three weeks, is entirely detached from it, so that the skin of the larva—now brown and hardened, and of a sort of leathery texture—has become a case or shell for the pupa inside. The *pupa shell* is, of course, in size and form, like the larva: it is oval, bulging out beneath, and of the same curve above as the outside of the stalk; divided by cross lines into twelve segments, and is about an eighth of an inch long. Within this shell the pupa gradually advances towards the winged state; it contracts in length, but not in breadth; and its skin appears covered with minute elevations. Just before evolution, we find the pupa invested in a delicate membrane, or scarf,—which, not long previous, was its outer skin through which many parts of the future fly may be distinctly seen. Finally, this scarf splits along the thorax, or back, and the insect comes forth, both from this and the pupa shell, a perfect two-winged fly.

This is, in brief, the history of an individual which has been so fortunate as to escape all the numerous enemies with which its race is surrounded from the moment the egg is deposited; but of these more hereafter.

In the northern and middle States, at least, winter wheat is sown in September or October. Soon after the plants have appeared above ground, the Hessian fly begins to lay her eggs upon them; and this operation is continued during several weeks, according to the season. The eggs laid on the green leaves are in a few days hatched, and the young larvæ crawl down the stalk, and take their stations; generally clustering around the stalk at the nearest joint below. Here, by sucking the plant, they increase in size, become full and hard, and pressing deeply into the stalk, they impair its growth; and if their number about one joint is large, the stalk is killed. Frequently the plant, although impoverished, advances far enough to head out; but when the grain begins to fill, its own weight, or perhaps the wind, causes the stalk to break down. The injury done to the wheat is occasioned by the exhaustion of the sap, and by the pressure on the yielding stalk.

In five or six weeks the larvæ stop feeding, the outer skin turns brown, and within this brown and leathery case the pupæ pass the winter—generally a little below the surface of the earth. In April and May the fly is again found depositing her eggs on the same wheat,—viz: that from grain sown the preceding autumn,—and also on the spring wheat which has just come up. These eggs hatch, and the larvæ

therefrom operate in the same manner as those of the autumn previous. These larvæ become pupæ about the middle of June. The flies which lay their eggs in the spring are probably in part from the pupæ which became such late in the preceding autumn, and partly from the pupæ contained in stubble left the preceding summer. The period of the existence of the Hessian fly in the pupæ or flax-seed state is exceedingly variable. After much observation my own opinion is, that in general, pupæ which become such late in the autumn, evolve the winged insect partly during the next spring, and partly in the summer and autumn following. Those pupæ which become such about June, evolve the winged insect partly during the next autumn and partly during the year succeeding.

AGRICULTURE IN EUROPE.

LEIPSIK, 10th mo. 15th, 1853.

To the Editor of the Farm Journal:—My first and last letter was written to you from New York. So totally different are my circumstances now, from what they were then, that I fear I can establish no relation between that letter and this one.

Then, the indefinite idea of a trip across the Atlantic was before me, and I was on the eve of starting. Now, that ocean swells behind me, and I have found pleasant quarters in this inland town, where I shall remain some months to prosecute, among other things, the study of the Science of Agriculture. There is a far better field for the student of Agricultural Science on this side of the Atlantic, than in the New World, not only because it is made a distinct study in the highest Universities, under the best Professors in the world, but here, necessity, the mother of invention, has obliged the husbandman to economize all the resources of the farm, and try every experiment to make the land produce, in order to sustain existence. And still further, here are thousands of acres, naturally barren, that only produce through the application of such material as will improve the soil. Here we see the efforts of the agriculturist to improve land that the Americans would allow to lay waste, while he has his "back woods," or his California to go to. Here the subject of agriculture has been made the subject of investigation, by the greatest men of the country, and the governments have patronized and encouraged them in their efforts.

In the United States, we have hitherto given this subject but little attention; the necessity of the case has not demanded it: but as the man of wealth may learn useful lessons in economy, from those who are pinched with poverty, so, I trust, with all deference to my countrymen, we may say, they can learn from the struggling efforts of the farmers of Europe.

So far as I may be able, I shall endeavor to say something that may contribute to this purpose, by occasional letters to your paper on the subject of Agriculture. The farmer who lands in the Old World, as I did in Hamburg, will, by a walk into the country, see much that will excite his curiosity, even if he look at nothing but such things as relate to the farm. He will find nothing to learn with respect to ordinary implements to work with.

They use the old fashioned iron forks, the wooden cog-wheel Dutch fans, clumsy rakes, the flail, (that stands in the same relation to American boys that a spinning

wheel does to the girls,) the low barns with thatched roofs, and the house and barn under the same roof, with only a partition between the cattle in one and the inmates of the other; indeed, in any thing that relates to *saving labor*, or living in what an American would call *respectable style*, there is not much to be learned. The peasantry are not able to live in very fine style, but where things about a house in northern Germany *do indicate* good taste in many things, still we find this association of men and animals under the same roof. But around Leipsic, and in the southern part of Germany, this practice, I am told, does not exist. It forcibly reminds one of the old expression, "Every one to his notion, as the old woman said when she kissed the cow." She loved the cow. And the north Germans seem to love their company. Labor saving machines are not needed, as labor is so cheap as *not to be worth saving*, and the consequence is every thing that labor can do to save *wood and iron and raise grain*, is done, so that around Hamburg is found the most luxuriant crops, the finest grass, and on it the best of cows. The cows are remarkably large, though still retaining that *feminine* appearance characteristic of good milkers. Our large cows in the United States are too often of a long, masculine form, that all good judges recognise as poor milk cows. I spent one year in the Mohawk Valley, New York, where butter and cheese making is carried on almost to the exclusion of every thing else, and almost every farmer had 30 or 40 cows, but they were not nearly so large as the cows in the neighborhood of the above town.

The butter and cheese that comes into Hamburg market are said to be superior to any in Germany, and from a week's residence in the town, I can testify to their good qualities. Much care is taken of their cows; in the absence of fences as often is the case they are watched all the time.

The most luxuriant grass is often without a fence around it, but no cattle run the road, and they are guarded in the fields.

The land is principally very fertile on the banks of the Elbe, which are very low and of an alluvial character. This appears to be the case up as far as Hamburg, but the country northeast and east of this town has been swept over by what is known to geologists under the name of *drift*, where hundreds of square miles present sandy, gravelly plains, that are very unproductive. In many places the grass cannot get hold enough in the soil to keep the wind from blowing the sand about, and leaving the surface entirely bare, giving the country a most desolate appearance, yet even here the farmer is struggling with the soil for bread, and we see a great many plans adopted to bring these barren lands under cultivation. Many of them are planted over with pine or fir trees, to raise timber from; so that the traveller often sees forests of planted trees, but every one stands in the naked sand, and no plant or shrub of spontaneous growth graces the soil, seeming to say with an obstinate firmness, I will go *no farther* than I am driven. As we proceed farther from the cities we find pine trees of natural growth, but these come out of sandy piles that seem to begrudge them existence. When the farmer wants to bring in one of these sandy fields he either

hauled clay and mixes with the sand—gives it a good coat of manure, or follows a system of *green manuring*.

To get the clay is often impracticable, and if found in abundance it would not answer alone. The manure can only be obtained at the expense of *some other place*. But the system of green manuring is the most scientific.

Before such soil will produce anything it must contain organic matter. How is this organic matter to be supplied in a barren, sandy plain? Why plant something that will grow on the soil and then plough it down. It would appear impossible to get anything to grow on such soil, but this country abounds with a kind of broom, (a species of *genista*), none of the kind occurs in Chester county; that near Oxford village being larger. This plant grows on the barren soil, and after two or three years it is cut off and used for fire wood, and the ground which has been somewhat improved by the introduction of roots, is next sown with buckwheat, which being plowed down prepares the ground for potatoes or rye. Finally a crop of clover is raised, and then with the judicious use of all the vegetable matter that comes off in the form of straw, &c., it is kept in tolerably good order. But to see the peasant working on this land, with the barren, or the broom covered heath close beside him, you feel almost as though you were looking at a man drowning. He is working away over the sand piles, and if he relax his energies a year it falls back into death-like poverty. His only hope for existence is to labor, and labor *incessantly*. In a few instances I saw them burning dust to spread on the land, and if I mistake not they sometimes dig up the broom, and burn the dust it grows in, roots and all. There are exceptions to this kind of soil in some places, when we see very fine beets, cabbage and other garden vegetables, at this season of the year. Along the small rivers and creeks that empty into the Elbe is, in many places, excellent land; but in such places it is almost invariably too wet, rendering it necessary to throw the land up into rolling lands, so that it resembles soil ploughed in lands with very deep "cleaning up furrows," in which the water stands. But more generally the lands are still higher in the middle, and instead of cleaning up furrows, a ditch runs between them, that drains the water out of the land. But when drained out, it stands in the ditch, the country being too level to carry it away. Along these rivulets are hundreds of acres, every acre of which is cut up by scores of these little ditches, and occasionally a large ditch runs through the whole to convey off the water. But the most remarkable characteristic of farming this kind of land is, that in many parts of Holland, where the low wet land is very rich, they pump the water out of the land with wind pumps. What think you farmers of going down into your swampy meadow and digging several ditches through them, not to lead the water off to a low point where it will run away, but to conduct it to some hole in the middle where you can pump it out? When you want such land, come to Germany and you can find it in abundance. I saw but two of these wind pumps in motion, they were pumping the water out of luxuriant gardens, and emptying it into a large race that was banked up on either side, so that the bottom of it was higher than the surface of the ground.

But I am in hopes that I shall be able before return-

ing to learn more of agriculture in Holland, as I wish to make a trip through the most important agricultural parts of that country on foot. The iron horse gives but little time for observation.

As we approach Magdeburg, the land improves, and around this town is found one of the finest corn and vegetable raising countries in Europe. The land around this city appears to be of excellent quality, though it is low and not requiring much ditching. The cause of the sudden transition from sandy plains and barren heaths to fertile fields, is due to the course and character of the *drift*, which consists, for the most part, of pure sand, rounded pebbles, and rocks, lying loose in the sand. Soil similar, with the exception of its barrenness, may be seen in many places, a few miles on either side of the Susquehanna and Delaware rivers.

The sand on the western shores of Holland has come from the ocean, and differs from the drift in containing no large stones. The wind often blows it to great distances into the country, rendering land once fertile entirely barren; but the effect of the winds has of late years been checked by annually sowing a very deep rooted plant on it, (*arundo arenaria*), which by its roots holds the sand fast. Indeed, to see a people harrassed with sand coming from the ocean; or living on a vast sandy plain, or pumping the water out of their fields, and building immense dykes to keep the ocean off them; and even as I shall hereafter notice pumping the water out of lakes, and keeping it pumped out, to get land and raise substance from, is to know the blessing of living in a country where land is abundant. But my half sheet is full. Farewell.

E. P.

For the Farm Journal.

James Gowen's Address and Guenon.

In looking over an address delivered before the Mercer County Agricultural Society by James Gowen, Esq., I see under the head of "Humbuggery and Quackery," he ranks "Guenon's System of Judging Milk Cows." As I feel a little tenacious on that subject, and have proved the system correct by many years' experience, I thought it would not be out of place to ask a few questions through the Farm Journal. 1st. Has Mr. Gowen ever *studied* Guenon's work, and *applied* it enough to find its incorrectness. 2d. Has he ever found a well marked cow that was not a good milker, and an inferior marked cow that was a good milker. 3d. As he makes mention of "the cut of the hair," did he ever see a long, scanty haired animal that was a good animal for milk or feeding properties. On this mainly depends the Guenon theory. I think there are more facts classed under the head of quackery in his address than have been dreamed of in his philosophy, and it would be proper for persons, who profess to be teachers and pronounce things humbugs that they don't understand, to inform themselves upon certain points first, and then give their reasons for doing so.

I hold myself open to conviction at any time when *facts* are produced to prove the incorrectness of any subject, and especially upon Guenon's theory of judging milk cows, but I never feel satisfied to take an assertion without the reason along with it. Perhaps Mr. Gowen can give this, and if so he will much oblige many of

your readers, and especially *one* who is a believer in the SCIENCE.

N. B.—Several scientific societies in France and the Philadelphia Society for Promoting Agriculture here, have, after *examination* and the *severest tests*, reported favorably of Guenon's system. Their reports are more reliable than the mere *ipse dixit* of an individual.

December, 1853.

STRAWBERRY QUESTION AGAIN.

CINCINNATI, NOV. 10, 1853.

Editor of Farm Journal:—You err in saying that the Strawberry question is by T. Meehan narrowed down to a mere abstract point, whether under any circumstances a pistillate plant will produce staminate or hermaphrodite blossoms? I agree with you, that this is the only question, but not the only one Mr. Meehan makes. He not only says that he can make the pure pistillate Hovey, bear staminate blossoms, but that this discovery, makes "*the distinction between staminates and pistillates worthless, cultivation producing either one or other.*" If true, has his discovery any bearing on the theory, of the cultivation of the plant for fruit. Where was his judgment wandering, when he made this strange declaration. You err, in saying, that I came forward under my own signature, and gave up the whole case. What I said, was in substance this. As my seedling hermaphrodite, and some others, bear occasional blossoms, that are purely pistillate, I doubt not that a seedling plant may be produced, that bears an occasional staminate or hermaphrodite blossom. But I never have believed that a pure pistillate, can by any change of cultivation, produce any but pure pistillate blossoms. But I shall believe it when I see it, but not till then. In the July No. of the Western Horticulturist, I said the contrary. I said, "unpleasant as the duty is, they will in time be compelled not only to admit the difference in the sexual character of the plants, but that years of cultivation will never change their characteristics. You may as reasonably ask the same change in the human family." Mr. Meehan thought he had made this change in my new seedling, the Extra Red. The blossoms I have never examined particularly. Mr. Gardiner, a friend of Mr. Meehan's, told me that he saw a plant in my bed that had some staminate flowers. The next spring he found it was a trespasser. In its wild state, I have found all the variation in the sexes, that we now have. David T. Disney, Esq., from the prairies of Iowa, brought me staminates, pistillates, and Hermaphrodites. You say "it is admitted, that a bed of pistillates, will not produce a *full crop*, without the presence of staminates." What we say is, that it will not bear a *single perfect berry*. You are excusable if you deem that Mr. Meehan's changes may be true, as it would be rude to your brother of the Prairie Farmer, as all his kinds of pistillates, threw off their petticoats, and put on the bloomer costume.

N. LONGWORTH.

As regards the above letter, from our friend N. Longworth, and its correspondence or agreement with his previously expressed opinion which we copied from the Western Horticultural Review, we have nothing more to say but merely place them in juxta position, side by side.

We also in another column extract an article from the

Horticulturist, by William Saunders, Baltimore, which seems to effect at least, the *possibilities* of the case.

N. Longworth in Horticultural Review says, "as Longworth's Prolific, which is hermaphrodite, produces a chance pistillate blossom, I see no reason for saying that there may not be a pistillate bearing an occasional Hermaphrodite or staminate blossom."

N. Longworth in the above letter says, "But I never have believed that a pure pistillate can, by any change of cultivation, produce any but pure pistillate blossoms."

For the Farm Journal.

Report of the Committee on Dairies of the Chester Co., Agricultural Society.

The committee appointed by the Agricultural Society of Chester county, to award premiums for the best managed Dairies, report. They have visited all the dairies for which application has been made to us, by competitors for premiums, and they have awarded to Samuel J. Dickey & Brothers of Hopewell, the first premium; and to Dr. E. V. Dickey of Oxford Borough, the second premium. They have also awarded to Job Hayes of Newlin the first premium for the manufacturing of butter and cheese combined in the same dairy. The committee could not with justice here close their report, without giving some of the details of the management of the dairies examined. The first place visited was that of S. J. Dickey and Brothers; their Spring House is situated over a never failing spring, built of brick, some 50 or 60 feet long, 14 wide, with a high story, all plastered, ceiled, white coated and washboarded; the bottom being laid with bricks with platforms up the middle for a walk. The wall is shelved around some three feet from the bottom for the purpose of putting the milk pans on in Autumn or cold weather. It is well ventilated by numerous windows covered with a fine wire sieve, which keeps out all the small moths, and flies, so annoying to the dairy maid. The Spring House is kept to a proper temperature in cold weather by artificial heat. Adjoining the milk house, is the wash house in which is every convenience for the accommodation of the dairy maid, whose duties, by the by, are not enviable ones. It being churning morning, we had a full opportunity of witnessing her mode of manufacturing butter. In the first place it was churned by one of Copes' 150 gallon churns, propelled by horse power. Out of this churn it was taken from the butter milk, and put into one of E. J. Dickey's patent butter workers, 25 lbs at a time. Here one of the committee held his watch, and found the time occupied in working out the butter milk thoroughly, and working in the salt, to be two and a half minutes. They salt their butter by weight. It is then taken out of the worker and put into a large wooden bowl, and left to stand until the salt is completely dissolved, it is then put into the worker again, and in less than two minutes the brino and streaks are completely worked out. It is again taken out into the wooden bowl, weighed into half pounds, then put into a mould by which they are printed into square pats with great accuracy and despatch. It is then packed into square tubs or boxes on shelves for the Baltimore market. Each tub is accompanied by its pass book in which are marked by the agent the sales of all the butter; price per lb., &c.

Their cow house is adjoining the barn some sixty or seventy yards from the spring, in which their cows, some forty in number, are tied by chains in stalls, except the unruly ones. These are served like our convicts, put into the penitentiary where they can be milked with great safety. The milk is then strained into two large cans and conveyed

by railroad to the spring, where it is put into pans to cool.

The next place worthy of notice was that of Dr. E. V. Dickey, who certainly deserves great credit for the manner in which he has arranged every thing for the convenience of his dairy.

His buildings are very much like those of the first place visited as is also his manner of preparing the butter. Here they had a chance of seeing some of the best kind of Chester county hogs which he was preparing for the Baltimore Agricultural exhibition.

Their milking stock consists, principally of the New York or Eastern cows, and containing a strong dash of Devon blood. They are selected with great care, and the Messrs. Dickey are trying to improve them by the introduction of the Ayreshire and other improved breeds.

The following account taken from the pass book of Samuel J. Dickey and Brothers, shows the butter made from Oct. 1st 1852, to Oct. 1st 1853, to be 5,990 lbs., which was sold in the Baltimore market for an average of thirty-one and three-quarter cents per pound, from which deduct four and a quarter cents for commissions, freight and hauling, and it leaves the net price twenty-seven and a half cents. The account then will stand thus for the year.

Dairy Cr. by 5,990 lbs. butter sold nett at 27½	\$1,647 25
by calves sold during the year	211 14
by pork, " " "	280 00
Whole amount,	\$2,138 39
Deduct interest on dairy and fixtures,	36,00
" " on cows,	72,00
" Expense of making butter	179,70
	287,70

Balance, \$1,850 69

Amount per cow forty-six dollars and twenty-six and three-quarter cents.

The attention of the committee was then directed to the farm of Job Hays; here are made some of the finest cheese in the State. The question being asked how he acquired the art of making so fine an article,—the answer given was that Mrs. Job Hayes brought that art with her. It certainly is an art that every dairyman ought to know and practice in the same manner. His practice is to make Cheese in the flush season when the market is overstocked, and butter low. If dairymen would generally adopt this plan, they would be able to to benefit themselves and realize a much handsomer profit on their dairies than they usually do. The materials to make one pound of butter, will make two and a half pound of cheese worth, generally from 11½ to 12 cents per lb.

The following account taken from his diary shows the amount received for butter from the first of Oct. 1852 until first of the same month 1853:

for cheese	\$689,60
" cottage cheese,	327,80
" pork,	36,00
" calves,	196,00
	140,00
	\$1,389,40

Number of Cows 28, making forty-nine dollars sixty-two and a half cents per Cow.

The Pork is valued at 100 lbs per cow.

The weight of Milk given by one of the better cows during the season was 5,130 lbs.

ENOS SMEDLEY, MARSHALL STRODE, WILLIAM WEBB, HENRY L. PRATT.	} Committee.

Mr. Editor:—I thank you for your last report of the markets. It saved me a handsome sum of money, as but for

it I should have sold my grain to a speculator who was in our neighborhood, and who duped some of my neighbors, who are not kept posted in the prices even of our nearest markets.

Luzerne County.

P. R.

For the Farm Journal.

OSIERS.—No. 2.

Cutting. The proper season for cutting basket willows is the autumn, immediately after the fall of the leaf. The advantage of cutting at this season is, that the buds, which are left to produce the shoots for the succeeding crop, immediately begin to swell, and grow in strength during the winter, and, consequently, they make much earlier and stronger shoots the following spring. Immediately after cutting the rods, they are tied up in bundles, each generally about 3 feet 9 inches in girth, and if they are not intended to be used with the bark on, they are set on their thick ends in standing water to the depth of 3 or 4 inches. Here they remain during the Winter and Spring, till shoots begin to sprout, when they are ready to be peeled.

The operation of *Peeling* is very simple and is commonly done by infirm or old men or women, at so much a bundle. The apparatus for peeling consists of two round rods of iron, nearly ½ an inch thick, 1 foot 4 inches long, and tapering a little upwards, welded together, one end of which is sharpened, so that the instrument may be easily thrust down into the ground. When the instrument is inserted in a piece of firm ground, the peeler sits down opposite to it, takes the willow twig in his right hand by the small end and puts a foot or more of the thick end into the instrument, the prongs of which he presses together with his left hand, while with his right he draws the willow towards him; by which operation the bark will at once be separated from the wood, the small end is then treated in the same manner, and the peeling is completed. (Sang.) Another mode is, to fix a plank on legs at a convenient length, so as to form a stool, or small bench, having holes bored in it with an inch auger, into these is put a stick, the upper end of which is cleft; and through this cleft the twigs are drawn, to separate them from the bark, in the same manner as through the iron rods, (Mitch. Dend., p. 60.) After being peeled, the rods will keep in good condition for a long time, till a proper market is found for them. It may be useful here to remark, that Osiers in the peeled state will keep better to wait a market, than if left with the bark on; and that they never fail to produce a greater return in the peeled state, after paying for labor of peeling, than they do when sold immediately after they are cut from the stools. (Plant Kal.) In Germany, and also frequently in Scotland, the willows, after being cut and tied up in bolts, are stacked, or kept in an airy shed; and, when the bark is to be removed, it is effected by boiling or steaming them. The rods, thus prepared, are considered to be rather more durable than when the bark is separated in consequence of the rising of the sap; and they may be used immediately after cutting, instead of remaining in a useless state for several months. (Arboretum et Fruticetum Britannicum.)

To enumerate all the important information connected with this subject in the above mentioned valuable work, to give the beautiful drawings and plates of the different species of Willow and insects injurious thereto; and even the method of manufacture with beautiful illustrations, would require several whole numbers of your valuable journal. Therefore let me urge the propriety of its careful study by every one who contemplates the profitable culture of this, apparently very valuable crop.

J. K. E.

Dec. 5th, 1853.

The Apple Tree Borer.

MR. EDITOR:—This being the season for planting fruit trees, I avail myself of the opportunity offered by your very valuable Journal, to give you a communication on the above subject.

This destructive insect has of late become so troublesome, that it is with the greatest care and constant attention, that its ravages can be checked. It is the larva of a beetle called *Saperda Bivittata*, the two striped or the brown and white striped *Saperda*; the upper side of its body being marked with two longitudinal white stripes, between three of a light brown color, while the face, the antennae, the underside of the body and legs are white.

As is well known, the perfect insect in the beetle form, makes its appearance in the latter part of May, or the beginning of June: It is beautiful, so much so, that one unacquainted with it and its pernicious habits, would spare its life. In length it is about $\frac{3}{4}$ of an inch.

"It is said to make its escape from the trunks of trees in the night: during which time only, it flies from tree, to tree, in search of companions and food. During the day it is at rest among the leaves of plants it eats; it lays its eggs in June and July, upon the bark, near the root during the night." The grub cuts a cylindrical opening through the bark, and pushes backwards through the hole its excrements, which consists of a plug of woody fibres; in this place of concealment it remains for 2 or 3 years.

The fully grown grub is about an inch in length, has a hard horny head and claws. At this age it makes its final transformation, and gnaws itself through the bark.

Among the remedies recommended against this common enemy, are killing with wire thrust in the hole, cutting the grub out with a knife or gouge, or putting camphor in the hole, and plug it up with soft wood.

But to prevent (preventives are always better than cures) all this trouble and damage, is what we want.—That in my opinion can be accomplished, in a young orchard that has had no attack of this insect, by a square box, of $1\frac{1}{2}$ or 2 feet high, sufficiently wide to last for several years, to reach at least one inch or more into the ground, around the trunk of each tree, the box to be closed at the top with fine grass &c., covered with a coat of lime mortar, and the tree well whitewashed up to the first limbs. The box can be opened, and left open 'till April, or beginning of May, for air and moisture if that be requisite.

J. S. KELLER.

Orwigsburg, Oct. 24, 1853.

Education of Farmers' Sons—A Word of Advice.

The moderate means of most American farmers preclude the possibility of giving their sons a classical, or even a very liberal education. Usually after their sons arrive at an age when their labor can be profitably employed, their schooling is curtailed to the winter months, when they can be best spared from the farm. Some are then sent to boarding schools, but the far greater number to the public schools, which at this season are generally crowded, and not unfrequently conducted by inefficient teachers. This being the case, it is evident, they must

rely, in a great measure, upon their own exertions in acquiring an education, and as they shall improve their time, so will they be, comparatively, well informed or ignorant.

My advice to these, each and every one, is, that whatever you undertake to learn, *do it thoroughly*. Pass no rule, or section, or study of any kind, without understanding it. Recollect that we chiefly learn what is unknown by means of what we already know. Division is very easily learned by a student who thoroughly understands subtraction and multiplication, but it is very difficult, indeed impossible, for a scholar to understand it without a knowledge of these two preceding rules. All the subsequent examples in the arithmetic are solved by means of one or more of the first four, or primary rules. So in geometry. If the student fails to fully comprehend the first proposition, he can never thoroughly understand those that come after it. The same may be said of almost every other elementary study. For a student to run over, without understanding these little foundation rules, is like a builder who attempts to rear a structure without first securing a good foundation. Before he proceeds far, he has to tear down and take a fresh start, or he can never raise his building to a respectable height.

Another piece of advice I have to give is to get up early. Most farmers son's have the cattle to feed, the horses to curry, &c. Remember that one of the first requisites of a successful farmer is early rising. A prosperous farmer who lays abed after daylight would be a greater curiosity than any Barnum has in his museum. If you adopt the custom of early rising before the habits are fully formed, you will find it easy to do so in after life. The morning, too, is the best time to study. The mind is then clear and fresh and it is not half so difficult to study a lesson as in the after part of the day. An hour before day to the student, is worth two after dark.

Too much care cannot be taken by persons attending school to preserve the health. Most school houses are badly ventilated; the confined air is loaded with carbonic acid gas—a poisonous vapor given off by the lungs in breathing. Sleeping apartments, too, are generally without chimnies or other means of constant ventilation, and are calculated to impair the health. But worse than either of these, is the custom of many sleeping with their heads covered in cold weather, breathing the same atmosphere over and over again. This impairs the health, renders the mind less active, and less clear, and consequently retards the progress of the scholar in his studies, as well as the robust and full development of the body.

I shall have something to say in continuation of the subject in a subsequent number.

CHARLES HENRY.

Bucks county, Dec. 1, 1853.

Future Housekeepers.

We sometimes catch ourselves wondering how many of the young ladies whom we meet with, are to perform the part of housekeepers, when the young men who now eye them so admiringly have persuaded them to become their wives.

We listen to those young ladies of whom we speak, and hear them not only acknowledging, but boasting of their ignorance of all housework duties, as if nothing would so lower them in the esteem of their friends, as the confession of an ability to bake bread and pies, to cook a piece of meat,

or a disposition to engage in any useful employment. Speaking from our own youth recollection, we are free to say that taper fingers and lily white hands are very pretty to look at with a young man's eyes, and sometimes we have known the artless innocence of practical knowledge displayed by a young Miss to appear rather interesting than otherwise. But we have lived long enough to learn that life is full of rugged experiences, and that the most loving, romantic and delicate people must live on cooked or otherwise prepared food and in homes kept clean and tidy by industrious hands. And for all the practical purposes of married life, it is generally found that for the husband to sit and gaze at a wife's taper fingers and lily hands, or for a wife to sit and be looked at and admired, does not make the pot boil, or put the smallest piece of food therein.

THE HUSKERS.

It was late in mild October, and the long autumnal rain
Had left the summer harvest-fields all green with grass
again;
The first sharp frost had fallen, leaving all the woodlands
gay
With hues of summer rainbows, or the meadow flowers of
May.

Through a thin dry mist that morning, the sun rose broad
and red,

At first a rayless disc of fire, he brightened as he spread;
Yet even his noontide glory fell chastened and subdued,
On the cornfield, and the orchards, and softly pictured wood.

And all that quiet afternoon, slow sloping to the night,
He wove with golden shuttles the haze with yellow light;
Slanting through the painted beeches, he glorified the hill;
And beneath it, pond and meadow lay brighter, greener still.

And shouting boys in woodland haunts caught glimpses of
that sky,
Flecked by the many tinted leaves, and laughed they knew
not why;

And school-girls, gay with aster flowers, beside the meadow
brooks,
Mingled the glow of autumn with the sunshine of sweet
looks.

From spire and barn looked westerly the patient weather-
cocks;

But even the birches on the hill stood motionless as rocks;
No sound was in the woodlands, save the squirrel's dropping
shell,

And the yellow leaves among the boughs low rustling as
they fell.

The summer grains were harvested, the stubble fields lay
dry,

Where June winds rolled in light and shade, the pale green
waves of rye;

But still on gentle hill-slopes, in valleys fringed with wood,
Ungathered, bleaching in the sun, the heavy corn crop stood.

Bent low by autumn's wind and rain, through husks that dry
and sere,

Unfolded from their ripened charge, shone out the yellow
ear;

Beneath the turnip lay concealed in many a verdant fold,
And glistened in the slanting light, the pumpkin's sphere of
gold.

There wrought the busy harvesters, and many a creaking
vain.

Bore slowly to the long barn floor, its load of husk and
grain;

Till broad and red as when he rose, the sun sank down at
last,

And like a merry guest's farewell the day in brightness pas-
sed.

And lo! as through the western pines on meadow stream
and pond,

Flamed the red radiance of a sky set all on fire beyond;

Slowly o'er the eastern sea-bluffs a milder glory shone,

As the sunset and the moon-rise were mingled into one.

And thus into the quiet night the twilight lapsed away,
And deeper in the brightening moon the tranquil shadows
lay;

From many a brown old farm-house and hamlet without
name,

Their milking and their home-tasks done, the merry huskers
came.

Swung o'er the heaped up harvest, from pitchforks in the
mow,

Shone dimly down the lanterns on the pleasant scenes be-
low;

The growing pile of husks behind, the golden ears before,
And laughing eyes and busy hands, and brown cheeks glim-
mering o'er.

Half hidden in a quiet nook, serene of look and heart,

Talking their old times over, the old men sat apart;

While up and down the unhusked pile, or nesting in its
shade,

At hide-and-seek, with laugh and shout, the happy children
played.

Urged by the good hosts's daughter, a maiden young and
fair,

Lifting to light her sweet blue eyes, and pride of soft brown
hair;

The master of the village school, sleek of hair and smooth
of tongue,

To the quaint old tune of some old psalm, a husking ballad
sung.

Heap high the farmers's wintry hoard!

Heap high the golden corn!

No richer gift has autumn poured

From out her lavish horn!

Let other lands exulting, glean

The apple from the pine,

The orange from its glossy green,

The cluster from the vine.

We better love the hardy gift

Our rugged vales bestow,

To cheer us when the storm shall drift

Our harvest fields with snow.

Through vales of grass and meads of flowers

Our ploughs their furrows made,

While on the hills the sun and showers

Of changeful April played.

We dropped the seed o'er hill and plain

Beneath the sun of May,

And frightened from our sporting grain

The robber crows away.

All through the long bright days of June,

Its leaves grew green and fair,

And waved in hot midsummer's noon

Its soft and yellow hair.

And now with autumn's moonlit eves,

Its harvest time has come,

We pluck away the frosted leaves,

And bear the treasure home.

There richer than the fabled gift

Apollo showered of old,

Fair hands the broken grain shall sift,

And knead its yellow gold.

Let rapid idlers loll in silk

Around their costly board,

Give us the bowl of samp and milk

By homespun beauty poured.

Where'er the wide old kitchen hearth

Sends up its smoky curls,

Who will not thank the kindly earth,

And bless our farmer girls!

Then shame on all the proud and vain,

Whose folly laughs to scorn

The blessings of our hardy grain,

Our wealth of golden corn!

Let earth withhold her goodly root,

Let mildew blight the rye,

Give to the worm the orchard's fruit,

The wheat-field to the fly.

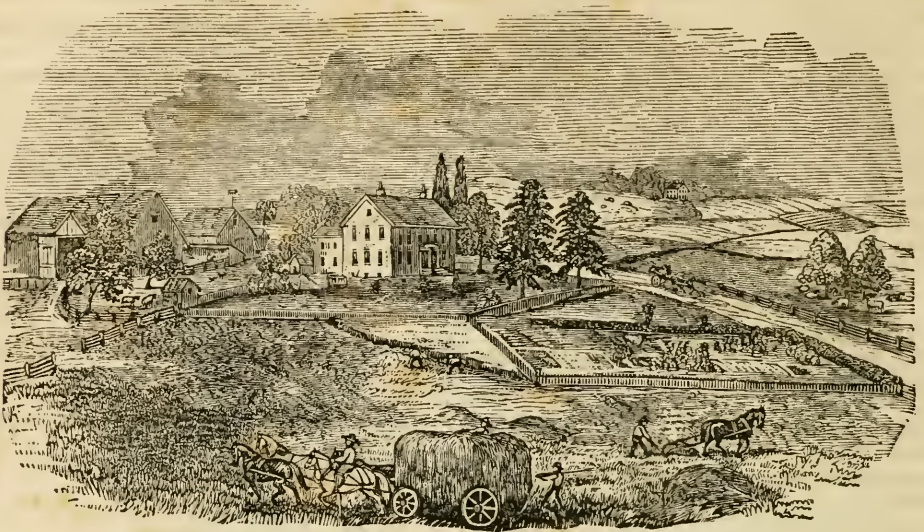
But let the good old crop adorn

The hills our fathers trod,

Still let us for this golden corn,

Send up our thanks to God!

WHITTIER.



THE THRIFTY FARMER.

The Provident and thrifty Farmer, adopts three rules for regulating his business, which he observes himself and enforces on those around him, viz: to do every thing in the right time, convert every thing to its proper use, and put every thing in its proper place.

He buys only the improved breeds of cattle, horses, sheep and swine, and keeps no more than he can keep well, either in summer or winter.

He always drives on his work and never lets his work drive him.

His animals are never under fed or over worked.

His outhouses, Woodshed, Poultry House, Pig Pen, Wagon House, Spring House, and Corn Crib are nicely whitewashed on the outside, and kept clean and neat within.

He has a tool house, and a place for every tool in it, which may be wanted for any ordinary farm purposes, such as mending implements, making axe or hoe or fork handles, &c., and also for stowing carefully away, such as will not be wanted for another season.

He has sheds around his barnyard, to protect his cattle from the weather, and warm well ventilated stables for his cows and young stock, and also a shed, to protect his manure heap.

He has leaves or other refuse vegetable matter, together with soil from his headlands, convenient to his barn yard, to compost with his manure heap, through the winter.

He does not allow the liquid manure to escape into the nearest stream, a quarter or half a mile from his barnyard.

His barn, and sheds, and dwelling, are all supplied with good spouting.

His fences are always in good order, and materials for repairing or renewal, are collected and made during winter.

His woodshed is supplied with wood cut in August, always one year ahead.

His wife never scolds, because she never has occasion to.

Her cellar and pantry, are always supplied with the needful *raw material*, which she works up into a palatable form to fill up vacuums at meal times.

Heavy bread, cold buckwheat cakes, and rancid butter are novelties which her gude man and the children have heard tell of by some of the neighbors, but have never seen.

When a friend or two calls to lodge, a plate of good ripe Rambo apples, a pitcher of sweet cider, and a dish of boiled chesnuts, are brought for discussion around the stove of an evening.

He is a subscriber to the Pennsylvania Farm Journal, and his county newspaper, pays his subscription regularly, has a club formed in his neighborhood, the money for which he collects and forwards to the publisher, at the close of each volume.

He considers it a duty to promote the circulation of Agricultural papers, and has saved himself some hundreds of dollars by following the advice of the Farm Journal.

His crops are always equal, and often better than any in the neighborhood, and are kept clear of weeds.

He watches the markets, and sells his crops at the highest prices.

He makes it a rule always to spend a little less than he makes.

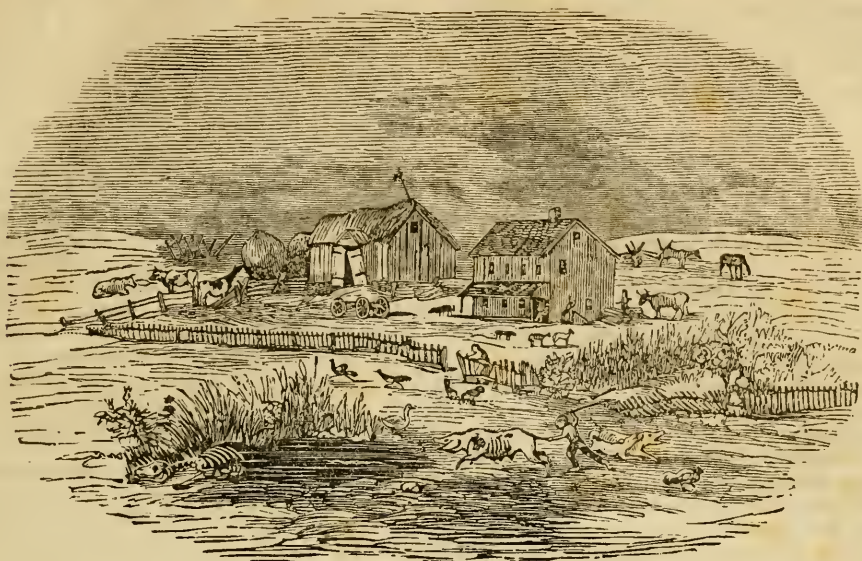
Himself and wife are both industrious, the children are brought up in the same way, and are not allowed to shoot the birds, smoke cigars or chew tobacco.

He buys and sells on the cash principle, and thus saves himself from losses and bad debts.

He has a large fruit orchard, well supplied with every variety of fruit to ripen in succession.

He studies the *theory* as well as the practice of farming, has cleared off the last \$100 of mortgage, and is seriously talking of making a bid for his neighbor Sloven's farm which is up at Sheriff's sale.

He goes to church on the Sabbath, minds his religious duties, and brings up his children to do the same, lives respected, and dies regretted, as a useful man and good christian.



THE THRIFTLESS FARMER.

The *Fort Wayne Times* gives the following life-like portrait of a "thriftless farmer:"

The thriftless farmer provides no shelter for his cattle during the inclemency of the winter; but permits them to stand shivering by the side of a fence, or lie in the snow, as best suits them.

He throws their fodder on the ground, or in the mud, and not unfrequently in the highway; by which a large portion of it, and all the manure is wasted.

He grazes his meadows in fall and spring, by which they are gradually exhausted and finally ruined.

His fences are old and poor—just such as to let his neighbor's cattle break into his field, and teach his own to be unruly and spoil his crops.

He neglects to keep the manure from around the sills of his barn—if he has one—by which they are prematurely rotted, and his barn destroyed.

He tills, or skims over the surface of his land, until it is exhausted, but never thinks it worth while to manure or clover it. For the first, he has no time, for the last, he "is not able."

He has a place for nothing, and nothing in its place. He consequently wants a hoe or a rake or a hammer, or an angor, but knows not where to find them, and thus loses much time.

He loiters away stormy days and evenings when he should be repairing his utensils, or improving his mind by reading useful books or newspapers.

He spends much time in town, at the corner of the street, or in the "snake holes," complaining of hard times, and goes home in the evening, "pretty well tore."

He has no shed for his fire wood—consequently his wife is out of humor, and his meals out of season.

He plants a few fruit trees, and his cattle forthwith destroy them. He "has no luck in raising fruit."

One-half the little he raises is destroyed by his own or his neighbors' cattle.

His plow, drag, and other implements, lie all winter in

the field where last used; and just as he is getting in a hurry, the next season, his plow breaks, because it was not housed and properly cared for.

Somebody's hogs break in, and destroy his garden, because he had not stopped a hole in the fence, that he had been intending to stop for a week.

He is often in a great hurry, but will stop and talk as long as he can find any one to talk with.

He has, of course, little money; and when he must raise some to pay his taxes, &c., he raises it at a great sacrifice, in some way or other, by paying an enormous shave, or by selling his scanty crop when prices are low.

He is a year behind, instead of being a year ahead of his business—and always will be.

When he pays a debt, it is at the end of an execution; consequently his credit is at a low ebb.

He buys entirely on credit, and merchants and all others with whom he deals charge him twice or thrice the profit they charge prompt paymasters, and are unwilling to sell him goods at any cost. He has to beg and promise, and promise and beg, to get them on any terms. The merchants dread to see his wife come into their stores, and the poor woman feels depressed and degraded.

The smoke begins to come out of his chimney late of a winter's morning, while his cattle are suffering for their morning's feed.

Manure lies in heaps in his stable; his horses are rough and uncurried, and his harness trod under their feet.

His bars and gates are broken, his buildings unpainted, and the boards and shingles falling off—he has no time to replace them—the glass is out of the windows, and the holes stopped with rags and old hats.

He is a great borrower of his thrifty neighbor's implements, but never returns the borrowed article, and when it is sent for, it can't be found.

He is, in person, a great sloven, and never attends public worship, or if he does occasionally do so, he comes sneaking in when the service is half out.

He neglects his accounts, and when his neighbor calls to settle with him has something else to attend to.

Take him all in all, he is a poor farmer, a poor husband, a poor father, a poor neighbor, and a poor Christian.

For the Farm Journal.

THE PECAN NUT.

I beg leave to invite the attention of nurserymen and farmers, in this region, to the practicability of cultivating the *Pecan*, or *Illinois Hickory*,—the fruit of which is well known in our cities by the name of *Pecan Nut*, and is generally esteemed as being equal, if not superior in quality, to the best variety of the celebrated *Shellbark Hickory Nut*.

The earliest notice which I find of the Pecan Nut is in a letter from PETER COLLINSON to JOHN BARTRAM, dated London, April 1, 1762, acknowledging the receipt of some of the nuts, as follows:—"I really believe my honest JOHN is a great *way*, and has sent seven hard, stony seeds, something shaped like an acorn to puzzle us; for there is no name to them. I have a vast collection of seeds, but none like them. I do laugh at GORDON [an eminent nurseryman of that day] for he guesses them to be a species of *Hickory*.* Perhaps I may be laughed at in turn, for I think they may be, what I wish, seeds of the *Bondue* tree [*Gymnocladus Canadensis*, Lam. or Kentucky Coffee Bean], which thou picked up in thy rambles on the Ohio." In a subsequent letter, dated October 5, 1762, PETER COLLINSON says:—"I wish thou could get more of the hard nuts of Colonel BOUQUET. If they are *Hickories*, they are very different from what thou hast sent, or what I have ever seen."

HUMPHRY MARSHALL, in his interesting little work on the Forest Trees and Shrubs of America, published in 1785, refers to the tree by the name of *Juglans Pecan*, or *Illinois Hickory*. AITON, in his *Florus Kewensis*, published in 1789, calls it *Juglans angustifolia*, without at all noticing MARSHALL (as was usual with supercilious Europeans in those days), and mentions that the tree was introduced into England by Messrs. KENNEDY & LEE, in 1766. GAERTNER called it *Juglans rubra*. LA MARCK named it *Juglans cylindrica*; and MICHAUX & WILLDENOW described it under the more significant name of *Juglans olivæformis*. NUTTALL, in 1818, separated the *Hickories* from the Genus *Juglans* (or *Walnuts* proper), and gave to the *Hickories* the generic name of *Carya*. The Pecan Nut belongs to the true *Hickories*; and the Botanical name of the tree, as now established, is *Carya olivæformis*, or olive-shaped *Carya*.

JOHN BARTRAM and HUMPHRY MARSHALL each introduced the tree into their respective Botanic gardens many years since: but the one at Marshallton has always been so crowded and overshadowed by larger trees, that it is a poor dwindled specimen; and although the one in the Bartram Garden has become a considerable tree, promising annually to yield fruit, yet I understand it rarely, if ever, matures or perfects the nuts.

This circumstance has given rise to the opinion that the climate, in this latitude, is unpropitious to the culture of the Pecan Nut, and has discouraged many amateur cultivators from making the attempt. I am happy, however, to be able to state (what has but recently come to my knowledge), that Mr. HIRAN BAILY, of Dilworthstown, has succeeded in ob-

taining perfect fruit from a tree of his own raising. He brought some nuts from New Orleans, in February, 1828, and planted them in a flower pot, where they vegetated, and remained one year. Two of these seedlings were then set out in the open ground, at the place of Mr. L.'s former residence, in the township of Thornbury, some 5 or 6 miles south-easterly from the borough of West Chester.

At the time of their removal, the stems of the seedlings were only a few inches in height; but the tap root of each was several times longer than the stem. The young trees grew well; are now from 15 to 20 feet high, and the stems about 5 or 6 inches in diameter at base. I understand one of these trees has not yet, or not always, fully perfected or matured its fruit; but that the other has, for several years, been producing perfect nuts, in proof of which, a number of young trees have been raised from them. This last mentioned tree, indeed, bids fair to be quite prolific,—the nuts often coming to perfection in clusters of five at the ends of the branches,—as I have had occasion to witness the present season.

The result of Mr. BAILY's experiment with the Pecan Hickory seemed to me worthy to be made known; and I would suggest that our nurserymen should begin to raise the trees, and that our farmers (especially the enterprising young farmers,) should plant a few in favorable situations. It is very possible that seedling trees may gradually become so well acclimated among us as constantly to produce perfect fruit. This being the season to procure fresh nuts from the south, as well as the proper time to plant them, they may, doubtless, be readily obtained from their most northern indigenous localities, and also at the fruit stores in the city of Philadelphia. W. D.

West Chester, Pa., December 5, 1853.

For the Farm Journal.

Super Phosphate of Lime.

MESSRS. EDITORS:—In the number for this month, (Dec.) directions are given for preparing the Super-Phosphate of Lime, taken from the American Agriculturist, and as I have had some experience in the preparation of this valuable fertilizer, and as I flatter myself, have arrived at results of some importance, I will give you my mode, which upon trial I think will be found to possess many advantages.

In the preparation of the soluble Super-Phosphate from the insoluble Phosphate of Lime, a state in which it always exists in nature, these facts seem clearly as established. The first is that one-third of sulphuric acid, known as oil of vitriol, of proper specific gravity is needed. The second fact is, that this acid should be diluted with three times its bulk of water, otherwise it will charr instead of dissolve the bone. The third is, that the finer the bone is ground or crushed, the more readily and perfectly the compound will be found. These facts being settled, the lamented Norton, Dr. Higgins, our own State Chemist, and some others, direct that the acid, as above diluted, should be added to the bone by degrees, agitating the mass frequently for *ten days or two weeks*, at the expiration of which time, the compound would be ready for use. As this is a tedious and laborious process, I have sought to supply its place by another and less objectionable one, and have succeeded in a manner which I shall now give, and which, as you will see, is so simple as to be accessible to all.

I procure tubs of a capacity and number to suit the amount of Super-Phosphate I wish to prepare, common meat tubs answering the purpose perfectly well. Into these I place my bones, carefully moistening them with water as I fill up the tubs, in which condition I permit

*GORDON made decidedly the best guess; for those "stony seeds" were the nuts of the Pecan Hickory. In reply to PETER's remarks, JOHN BARTRAM says:—"The hard nuts I sent were given me at Pittsburg by Col. BOUQUET. He called them hickory nuts. He had them from the country of the Illinois. Their kernel was very sweet."

them to remain twenty-four hours, at the expiration of which time I find them heated to a high degree, which facilitates the action of the acid upon them. I now dilute the acid in a separate vessel, and after the heat evolved by the union of the acid and water has subsided, I pour it, in small quantities at a time, upon the bones, carefully stirring the mass so as completely to mix the acid with the bones, and continue to do so until all the acid is mixed with the bones, after which I cover the tubs carefully, so as to retain the heat. A thorough stirring and mixing of the mass will be needed three or four times for twenty-four or thirty-six hours, at the end of which time the process is completed, and a better article furnished than can be obtained by the method of Professor Norton after full two weeks of care and toil.

At this stage of the process the Super-Phosphate is a pulpy mass of the consistency of soft soap, and of course unfit to sow broadcast, or to be regularly applied to the soil. To prepare it for this purpose, I strew upon my barn floor saw dust, dry mould or well leached wood ashes, from two to three inches thick; upon this I spread the compound as evenly as I can, then cover it with more of the same article used to dry it, and proceed with fork and rake to mix up the whole mass until it is intimately incorporated, when it is fit at once to be put upon the land.

The Super-Phosphate of Lime is held by intelligent and judicious farmers, both in Europe and America, to be one of the most valuable fertilizers, and when suitably applied is capable of producing the most astonishing results. To the American farmer it is easily accessible, and perfectly available at comparatively low cost. From my own experience in its use, I am warranted in saying that it will repay its cost more than three fold when judiciously used, and at some subsequent time I may furnish you with a detail of the results of that experience, which will fully sustain all I have said in its favor.

Yours respectfully,

THOMAS SIM.

Libertytown, Frederick co., Md., Dec. 9th, 1853.

For the Farm Journal.

Alderney Cattle.

MESSRS. EDITORS:—A correspondent in a former number of the Journal makes inquiries in regard to Alderney Cattle. Please inform him that by applying to Paschall Morris & Co., 330 Market street, Philadelphia, he can learn where three Alderney Bulls of the purest blood in the country can be purchased, as well as their price and pedigree.

RUSTICUS.

For the Farm Journal.

Michigan Double Plow.

MR. EDITOR:—Yours of the 28th has just come to hand—and in reply to your inquiry relating to my experience and opinion of the double Michigan Plow. I would state that I consider it "*the Plow*." I used it last spring in ploughing about thirty-eight acres for corn and consider it the *best* I have ever used. During the time I have been engaged in farming, I have had in use quite a number of different kinds of plows, but none gave such entire satisfaction as the Michigan plow.

We did not raise as much corn per acre this season, as last, but considering all things, I think it a very fair crop. On one field of twelve acres and 17 perches, we had 96 bushels per acre; and on another field containing a little over twenty-five and three-quarter acres, we had

70½ bushels per acre, making in all about 3128 bushels on a little less than 33 acres, or 82 bushels to the acre on the whole.

Yours very respectfully,

E. J. DICKEY.

Hepewell Cotton Works, Nov. 29, 1853.

We shall be pleased to receive the matter indicated in the private portion of our friend's letter.—Ed.

Deep and Shallow Ploughing.

Extracted from the address of the Hon. B. D. Hamlin, at the McKean County Agricultural Exhibition, held August 6, 1863:

Another error, which is often remarked here and in other sections of the county, in the management of the cultivated parts of the farm, is the *shallow and small amount of plowing* it receives. Your experience has taught you that the efficiency of soils in producing good crops depends much on the subsoil. "If this," says Allen in his Farm Book, "consists of impervious clay or hard pan, which prevents the drainage of the water, it is evident the accumulation of heavy rains will injure the vegetation above, for it is certain that while nothing tends more to productiveness than an adequate supply of moisture for the roots, nothing is more injurious than their immersion in standing water." Much of our soil is of this character. As you penetrate the earth, after having gone a few inches below the surface, the soil becomes harder, or, as is commonly said, the clay becomes stiffer, and generally runs into what is called hard-pan. This, in its natural compact state, admits neither heat, air nor moisture, to much extent; all of which are indispensable agents to the production of vegetable life. When the earth is rendered *friable* to a point at, or near this harder substance, the water from the surface penetrates thus far and there remains: the roots, too, in seeking moisture and nourishment, reach the same point and then stop. It must be evident that if this point is near the surface, plants will be liable not only to the injury of standing in a bed of stagnant water, but be subject to the still greater liability of being destroyed by being parched in time of a drought. A sudden change from wet to excessive dry weather, upon lands thus cultivated, frequently causes the almost total destruction of the crops. Fields within my own observation have been thus visited, and I have no doubt from the same cause. For these evils there is a certain remedy. It consists in simply breaking up this hard earth by means of the sub-soil plow. Once removed from its bed, it will continue to drain off the water not absorbed in the upper soil, and afford a supply of moisture in dry weather without being disturbed again for years. This affords the cheapest and most efficient drains, besides answering the purposes of irrigation.

But these, though so highly important, are not the only beneficial results of deep ploughing. Continued cultivation absorbs, or rather exhausts, certain properties of soils which cannot be supplied by the use of the ordinary vegetable manures. The effect of this process of exhaustion depends, of course, upon the depth of the material acted upon. A thin soil will wear out sooner than a deeper one. The design of the sub-soil plow is not to throw out the earth, but simply to break it up in its bed.

There is, however, a gradual increase in the depth of the of the soil, produced by this practice. The fine and more soluble particles of the richer material above are constantly working down and enriching the loosened earth below; so that in a short time, the whole becomes a mass of productive matter.

The depth of all loamy soils, (which comprise all those in

this county except on the bottom lands near the streams, may be much increased with the plough in ordinary use among our farmers. It must, however, be done by judicious management and the application of a knowledge of some of the obvious laws of production. To throw up a mass of cold clay for the first time, in the spring, with the expectation of raising a crop that season, would be as preposterous as to think of maturing a hot-bed plant by exposing it to the chilling winds of March. Yet I have often seen this done, and have caused it to be done myself, and wondered why nothing grew. The true course to pursue is, at every successive *full* ploughing, to deepen your furrows a *little*; or for some crops, if you have plenty of warm manures, sink them to the full depth desired. This process will, in a short time, give you a soil that will wear, and that will not dry up or drown out your crops. So say men who have tried it and who have the aid of science to give additional weight to the testimony of their own observation. The frost in the winter will pulverise the soil more perfectly than it can be done in the same time by any artificial process.

Did you ever think that by shallow plowing you were *skimming* the land; and in a little while you would have all the cream *taken off*, and what was left would look *blue*? How long do you suppose land will produce with three inches depth of cultivation?—and how much more than that will be the average in this county? Some, I hope; too little, I fear.

When farmers can be made to understand that the earth which they cultivate is as a thing of life;—that it has respiration;—that it *breathes*: and that to produce a healthy and invigorating action, its pores must be kept open—then we may expect a large increase of crops. It is not the size of the mass of earth which surrounds a plant upon which it depends for its degree of nourishment; but it is the state of preparation that the earth is in; otherwise a solitary tree, placed in the centre of a field of compact clay, might be expected to flourish more luxuriantly than if planted in the fine mould of the door-yard. It is in the finely pulverized soils, so prepared as to admit heat, moisture and air more freely, that we may expect the largest growth of vegetable products. Prepare your fields as the homeopathist does his curatives, by pulverization (trituration); but be careful to administer no homeopathic doses of fertilizers or of labor.

POTATO DISEASE.

The following from the English Gardeners' Chronicle seems to be opposed to the idea entertained by some that the Potato is worn out by continuous planting, and can be restored to health and vigor only by introducing new seed from its native soil:

The following short account of an experiment upon the growth of Potatoes from South America may perhaps prove interesting to some of your readers. It was undertaken with the view of determining the correctness of at least one of the surmises as to the origin of the Potato disease, namely, that our seed was worn out, and that if fresh stock was obtained from the country to which it properly belongs, the disease would not be found to attack it. The tubers that I planted came from Peru in a guano ship, and were forwarded to the Royal Agricultural Society in March, 1851. I was fortunate enough to obtain one or two, which were planted at once in good garden ground; they came up healthy looking plants, and seemed to prosper until the time at which they were raised, in October; and were found to yield very well, without any appearance of disease having manifested itself, while other Potatoes in their neighborhood had suffered considerably. The following year they were again planted under quite as favorable circumstances, but with a very different result: the quantity taken up was small, and fully one-third were badly diseased, indeed from about the middle of August it was evident that they had begun to be attacked. However, the sound sets having been carefully pre-

served, were again sown this year with a similar unfavorable result; the produce has diminished in size, and more than one-third are destroyed. From this we may conclude, I think, that the disease is due to soil or climate, or to local influences rather than to a degeneration of the plant itself, or at any rate than to its being "worn out" by cultivation in this country.—G. H. O., *Fulham*.

THE FERRET.

MR. EDITOR—SIR: As you requested me to give you what little experience I have in rearing the Ferret, I would reply, by saying that I have often wished I could have seen, in your valuable paper, some interesting facts, relative to this useful animal, written by some one who has had more experience than myself.

I owned a beautiful little female ferret in England, when I was about sixteen years of age, and used to amuse myself by exercising it about my father's barn and stables, hog pens, &c., with a faithful dog; and was much pleased with its activity in driving rats, and following me about the premises, which it would do invariably until it came in scent of the hen-roost or of some game. Its nature is such that the moment it gets scent of game, it will immediately follow the track. She got so well acquainted with the premises that I left her in the barn one winter day, while I went to shoot ducks. When I came home at night I had forgotten all about my Ferret. The housekeeper questioned me, in a joking manner, about her. I feared she was lost; but she soon relieved my fears by informing me that she came home in the evening with a robin red breast in her mouth, and retired to her box.

I believe the Ferret to be a native of Africa; of a whitish color, and red eyes. They are much used in England for ferreting out rats, which are killed generally by well trained terrier dogs, or some other good kind of dog. They are also profitably used for the purpose of driving out rabbits from their burrows into nets for market;—vast quantities being obtained in this manner. Whilst in this business, there has been occasionally a stray Ferret left behind, and have been found again, when a female, crossed with the English Fitchew, which accounts for the different colors which they now assume; and are much harder, and smarter for hunting the rat.

Understanding that there was probably a million dollars worth of property destroyed annually in Ohio by rats, about seven years ago I took considerable pains to introduce Ferrets into this country. Since that time I have kept and propagated them, and have now five for sale, four males and one female. Their food has been, principally, coarse, sweet bread and sweet milk; occasionally a little fresh meat, when I had any, mice, &c., making a point of feeding them a little fresh water daily. They are very fond of their milk, and I have known them to leave any thing else to get it. I have been careful to feed them twice a day, and to see that they left no food. If they did, I gave them less; or if they got too fat, to lessen their feed. In winter or cold weather I always take the chill off the milk in a tin cup. They should have a good, clean bed of straw, with pure air, and be kept in a shady place in summer, and in a temperate or mild and dry situation in winter.

The Ferret is an animal that will require to be shut up, on account of its disposition to follow its prey; it being, in this respect, similar to the weasel. It is a great enemy to therat; consequently, when the premises are clear of game, it would be apt to wander off after it to some other place. They differ somewhat in their dispositions, like other animals.—They are naturally blood-thirsty; yet generally affectionate to their keeper. They are very neat in their habits, always choosing a remote corner for their evacuations; so that if they smell bad, it is on account of the sloth and negligence of the owner.

I am of opinion that the blood could be improved by a cross with the mink, or some mountain animal of the same species, which would make them better adapted to this climate. But I shall not choose the weasel, they being so wild and subject to climb, mischievous and difficult to manage. I think that with a little ingenuity, by the use of nets surrounding barns and boxes or traps, to confine or cause the rats to secrete for shelter, when driven by the Ferret, a successful crusade could be made against the increase of the rat.

I have found it necessary to keep the males apart, particularly about the beginning of February and afterwards, in

order to do well. I should recommend three apartments in the box, two below, one to sleep, the other for their evacuations. A square, thin board over the whole, resting on four cleats, forming the upper story, about six inches high, a few wires in front, to give air to each apartment, with a draw trough in front, behind the wire, for food and water, this being necessary, on account of the straw being continually cut up in small bits troubles them about eating, and sometimes fastens in across the roof of the mouth. Care should be taken when the female has young, or suckling, that she supplies her young, or is able, as they have been found dead in the nest, inadequate to supply their young, it being natural for the female to hunt up prey and supply the deficiency. They have been known, when they had not sufficiency of milk, to bring out their young, one by one, to their bread and milk, taking back one and bringing out another, seeing to it at the same time, that they did not take too much. The first female I had, tried to carry dish, milk and all, in to her young.

They are slow breeders, having one litter a year, from about two to six or eight—rarely two litters a year. They are pregnant about six weeks, and the young are blind nearly as long, but not helpless.

When used for hunting, it might be advisable to feed them but little or nothing in the morning if they do not hunt readily, at the same time not to over-work them without food. Two hundred dollars have been offered in Cleveland for a single pair. Yours truly, JOHN GIBBS.—*Ohio Farmer.*

Culture of the Hollyhock.

The soil most suitable for the growth of this noble early autumn flower is a very rich sandy loam; but it thrives well in any good rich garden soil. Previous to planting, the earth should be trenched at least two feet deep, and liberally mixed with well decomposed manure. If autumn planting is preferred, it should be done early, in order to allow the roots to get established before severe frosts set in; but plants turned out in March bloom quite as early and equally well as those planted in autumn, the plants having been kept growing throughout the winter. Care should be taken that they receive frequent waterings during dry weather, and a plentiful supply of liquid manure during the growing season; the earth should also be frequently loosened around the roots. When the plants have thrown up spikes about 6 inches high, the latter should be thinned out, leaving not more than three spikes on a strong plant, and on weak plants, not above one, staking each spike separately when about 16 or 18 inches high. To obtain fine blooms, all laterals should be cut away, and the flower-buds thinned out if too much crowded. The Hollyhock is in its beauty in the month of August; but a succession of bloom may be obtained until about the end of October by later planting. Immediately after the blooming season, it is advisable to cut the old flowering stems from the plants about six inches from the ground; and in October or early in November to earth up the crown with silver or road sand, which prevents too much moisture getting to the roots during the winter months. An occasional sprinkling of soot and quick-lime should be given to destroy slugs, which are the greatest enemy of this flower, and all decayed leaves should be picked off to prevent rot. Early seed will produce young plants the same autumn in which it is gathered; it should be sown in pans in light sandy soil, and plunged in a frame with gentle bottom heat. The mould should be moist at the time of sowing, and not watered until after the second leaves are formed; when strong enough, the plants should be transplanted into small pots, put into a close frame for a few days and when established hardened off. They should then be transferred to a cold frame, giving plenty of air in favorable weather through the winter, and in the month of March or April turned into the open ground for blooming. Late gathered may be sown in the open ground in May or June, in rows or drills; it will only require hoeing and thinning, and may remain for blooming. This plant may also be propagated by dividing the old roots, which is best done in autumn, taking care to leave plenty of root with each division. The best blooming plants are raised from cuttings, which may be taken from the crown of the old root, when the shoot is about an inch long, in the month of April or May, or by single eyes from wood shoots in July and August, taking care that the bark is sufficiently hard, but not pithy. The cutting should be potted singly in small pots; the eyes placed five or six round a 3-inch pot, in a light and very sandy loam, plunged

in a close frame, with a little bottom-heat, very sparingly watered, giving air every day for a short time, to exclude damp, and carefully picking off all decayed leaves. In about three weeks they will mostly be rooted, and should be immediately potted; when well established, they should be hardened off, and kept in a cool airy frame until they are transferred to the open ground for blooming.—*Gardeners Chronicle.*

To Increase the Size of Fruit.

Supporting Fruit a Means of Increasing its Size.—For the last few years I have taken considerable interest in horticultural pursuits, and during that time I have, from observation and a series of trials, ascertained that all sorts of fruits can be raised about one third larger than they usually are, and their qualities much improved, simply by supporting the fruit in the following manner: As soon as it is fully developed, it should not be allowed to hang its weight upon its stalk, as the increasing weight strains the stalk, and in that way, lessens the quantity of nutritious fluid flowing to the fruit. This may be obviated in some cases, by laying the Pear, Apple, or whatever it may be, upon the branch and fixing it with a piece of matting, to prevent its being moved by the wind; or by putting it into a small net, made for the purpose, at the same time keeping the stalk in a horizontal position when it can be done without twisting or bending it—as the bending, either accidentally or by weight of the fruit, is, in my opinion, most injurious to its growth; for the pores of the woody stalk are strained on one side of the bend and compressed on the other, hence the vessels through which the requisite nourishment flows being thus partially shut up, the growth of the fruit is retarded in proportion to the straining and compressing of the stalk. The fixing of the fruit also prevents the risk of its falling off and getting damaged before it reaches maturity. I have grown Dahlias upon the same principle, and with similar success, and I have no doubt that the most of flower blooms, especially those which are weighty and inclining, can be grown much larger by the system referred to, and, in short, all sorts of vegetables, trees, &c. Should you deem this worthy of insertion, it may be the means of attracting the attention of parties more able than myself to carry out the principle of support, which I conceive to be invaluable to everything in the vegetable and animal kingdom. *James Dobbie Dunce. Gardener's Chronicle.*

Consumption in Philadelphia.

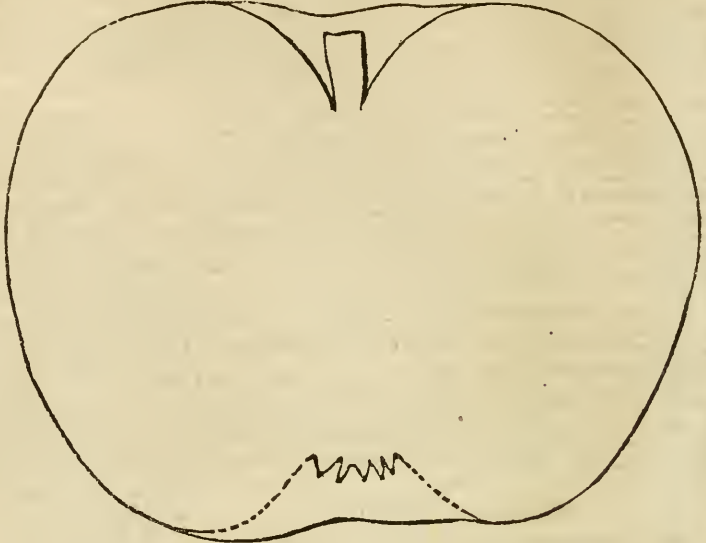
The Philadelphia Sun says: As a result of the advantages enjoyed by our citizens on the occasion of Thanksgiving Days, we subjoin the following statistics of the amount of articles consumed on Thursday, which we have carefully collected: 375 barrels of superfine flour, used in various ways; 169 bushels of potatoes, baked, roasted, boiled, &c.; 652 turkeys, 456 of which were roasted, and upon which 25 small sacks of salt were used, and about 14 lbs. of pepper; 459 chickens, cooked in various ways; 396 ducks, variously prepared; 261,021 pounds of butter; 260,609 lbs. of cheese; 572 pound cakes; 291,500 loaves of bread; 430 roasting pigs; and there were only 160 salt mackerel.—There were also drank 161,221 gallons of coffee, in which were used nearly the same number of quarts of milk; 760 gallons of champagne; 300 gallons of brandy; and in the district of Moyamensing alone there were drank 321 gallons of whiskey; 760 casks of lager beer, and other liquors in proportion. These statistics only show the propensity of the human species in reference to their gastronomic character, and so far as our figures go in regard to drinking, the number of arrests made for drunkenness substantially demonstrate them.

Imported Sheep.

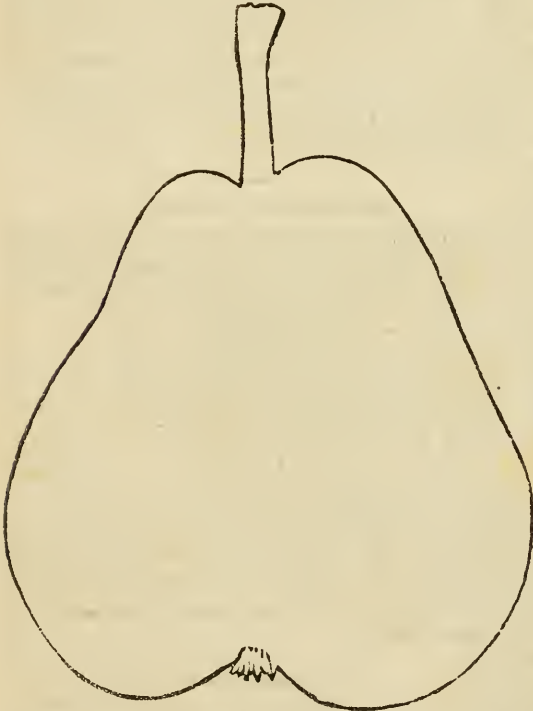
We notice a recent importation by Col. J. W. Ware, of Clarke county, Va., of improved Cotswold Sheep, consisting of eight bucks and three ewes. One of the bucks and the ewes were winners of the first prizes at the late Exhibition of the Royal Agricultural Society of England; which fact stamps the high character of the importation. The other bucks are of superior excellence, and do great credit to the enterprise of the importer—two of the latter were imported for Hy. Carrol and Wm. Jessup, Esqrs., of Baltimore county, and are now with their flocks.—*American Farmer.*

GRAVENSTEIN APPLE.

This celebrated apple is of German origin, and so far as we have heard sustains fully its reputation in all localities here. The name is supposed to be derived from its having been originally found in the garden of a castle called Graffenstein, in Oldstein, to which it is said to have been introduced from Italy. It has all the characteristics of a really desirable fruit, being, in addition to fine quality and large size, a vigorous and healthy grower, and abundant bearer, commencing when quite young. The fruit is uniformly fair, and is one of those recommended by the American Pomological Society as worthy of general cultivation.—Size, large, roundish, oblate, broadest at the base and somewhat one-sided; skin, greenish yellow, striped and marbled with red; stem, short and stout, deeply inserted; calyx, large, in a wide, deep, irregular basin; flesh, tender, juicy, crisp, with a rich, sprightly, somewhat aromatic flavour; ripens in October and November; shoots erect in habit.



URBANISTE PEAR, SYN: BEURRE PICQUÉRY.



This is one of the fine Flemish varieties, imported into this country in 1823, and is recommended by the American Pomological Society as worthy of general cultivation. It succeeds finely on the quince, coming into bearing sooner than on the Pear stock. It requires strong soil and good culture, and in favorable localities bears abundant crops. Not being so rapid a grower as some other varieties, it may prove to be longer lived and healthier, and the delicious flavor of the fruit will always place it in the first rank. Fruit, often large, obconic pyriform, often obtuse, obovate; skin, pale yellow, slightly russeted; stalk, one inch long, stout, inserted in a large depression; calyx, small, closed, inserted in a deep, narrow basin; flesh, white, buttery, melting, with a rich, delicious, highly flavored juice; ripens October and November.

Straw Paper

The New York Tribune notices a new discovery which promises to work a revolution in the production of newspapers as well as books, viz: the straw paper of Mr. Mellier, a French chemist and manufacturer. This article is made entirely from straw, and is as good as can be made of rags. By a new chemical process, the new invention reduces the fibro

of straw or other vegetable substances into pulp, which is then finished as paper by the ordinary methods. The advantage of the use of straw comes from its exceeding cheapness and abundance. Rags are scarce, and as the demand for paper increases rags become dearer, but there is little danger of a short supply of straw. To discover a way of using it for paper has long been desired, but until Mr. Mellier, no secker had found it out. We are informed that

his process is simple and cheap, and that when he ceases to claim compensation as patentee for its use, the price of paper cannot but fall very considerably.

Periods of Gestation in Domestic Animals.

It is frequently very important for farmers to know how long the different domestic animals go with young. The following table is believed to be very nearly exact:

Mares,	11 months.
Jennet,	11 "
Cow,	8 "
Goat,	4½ "
Ewe,	5 "
Sow,	4 "
Bitch,	2 "
Cat,	8 weeks.
Rabbit,	4½ "
Rat,	5½ "
Mouse,	4½ "
Guinea Pig,	3 "

The period of incubation of domestic fowls is:

Swan,	6 weeks.
Turkey,	4 "
Goose,	4 "
Duck,	4 "
Pea Hen,	4 "
Guinea Hen,	3 "
Common Hen,	3 "
Pigeon,	2 "

Ohio Farmer.

The Sod and Subsoil Plow

One of these plows, from the warehouse of Ruggles, Nourse, Mason & Co., of Boston, was in operation on the farm of H. F. French of Exeter, last Monday. Many of our best farmers were present, and with one voice pronounced it a decided improvement on any breaking up plow they had ever seen. It is the same implement known in many places as "*the Michigan Double Plow*." It is like an ordinary sward plow, with another smaller plow set in the beam, forward of the larger. The forward plow cuts a shallow furrow, turning the sod merely, while the other turns the rest of the furrow upon the inverted sod. Both plows may be gauged to any desired depth. Upon Mr. French's land, a sandy loam, the forward plow turned four inches, and the large plow seven inches, making a clear furrow of fully eleven inches in depth, and fifteen inches in width, by repeated measurement. The land when plowed had the appearance of finely pulverized old ground, no vestige of sward or grass roots being visible. It is found that no greater strength is required to draw the double plow, than the common plow, the splitting of the furrow-slice lessening very much the friction upon the mouldboard. Four oxen were abundantly sufficient to do the work as above stated. The plow used was the Eagle, No. 35. The advantages of such a plow, in effectually subduing witch grass, in lightening the labor of planting and hoeing, and in turning over the meadows in order to lay them down at once to grass, are obvious from the facts already stated.—*Exeter News Letter*.

ALDERNEY COW.

"My Alderney Cow, Europa, is eight years old, was imported from the Island of Jersey, in 1851;—she calved in October, about two months after she came into my possession; the average quantity of milk given by her the next nine months, was nine quarts per day; the greatest flow in the same time, was 12 quarts per day; her milk has not been kept separate from that of other cows, excepting for the purpose of testing its properties for butter. The first trial was in August, 1851, about two weeks after she arrived in this Yankee land, and about two months before she calved. I found by this

trial, that 4 quarts of her milk would produce a pound of butter. The second trial was in February, 1852; we were then using for the family, three pints per day of her milk, and the balance in seven days produced eight pounds of butter. One more trial was had in the last of October of the same year, and the result was 13½ pounds of butter in nine days. She had at this time given milk over one year, her last calf being more than one year old. She dropped her next calf on the 17th of May, 1853; the whole quantity given by her since, I am unable to state. The next trial of her milk for butter was made in May, about two weeks after she calved; in seven days she gave 110 quarts of milk, which yielded 17½ pounds of butter. The last trial was had within the last two weeks. She gave in nine days 85 quarts of milk, and the yield was 16½ pounds of butter, equal to 12½ pounds per week.

Her keeping through the winter was 2 quarts of corn and cob meal, 1 quart of shorts per day, and good hay; in summer good pasturing, with the addition of grain, occasionally, through the drought of July and August last, and 2 quarts of meal per day while we were testing the properties of her milk for butter. She has had no meal at any other time during the summer; her greatest flow of milk the past summer was 17½ quarts per day.

ELIJAH M. REED.

Tewksbury, Oct. 4th, 1853

Preparing Poultry for Market.

We have received several letters from Ohio and Indiana, asking whether it would pay to send poultry by railroad from the West. That question is easily answered. It will pay, if those who raise it will be content with half the retail price in our quotations every week. Freight and commission will consume the other half. The hucksters, those who monopolize all the produce, and fix the price to the producer and customer, have no conscience, nor care for aught but large prices.

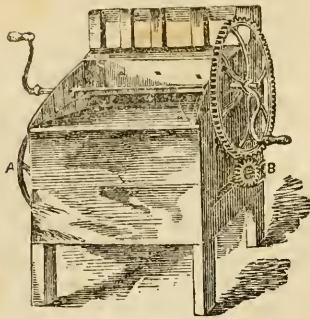
"How shall I dress and pack my turkeys, geese, ducks, and chickens, to send to the New York market?"

That question is also easily answered.

Hang your turkeys up by the heels and cut the jugular vein. Pick them dry. Remove the intestines, and wipe the inside dry. If you use water at all, do it by holding the bird by the legs, and letting an assistant pour the water through them. Wipe and hang them up in a cool place twelve hours, or till thoroughly dry. Serve geese, ducks, and chickens the same way. Do not scald them, unless you would like to have them spoiled. Take a box that will hold 250 chickens close packed. Put only 200 in it. The remainder of the space, fill with rye straw—clean rye straw—not chaff. Do not use wheat straw, or oat straw if you can avoid it. You may use coarse, clean, marsh hay. A wisp of straw in each bird will be advantageous. Nail up your box tight, and hoop strong, and mark plainly what is in it, and to whom it is sent. Send only in cold weather.—*N. Y. Tribune*.

Strawberry Question.

Having learned through a friend that Mr. PRINCE, in the *Pennsylvania Farm Journal*, had challenged any person to produce a perfect fruit on a pistillate variety of strawberry, without staminate influence, I wish to state that I have at present a plant of *Black Prince* in a pot, with a truss of (to all appearance) perfect fruit. There has not been any staminate in flower here for some months; neither do I suppose there are any in this neighborhood at this particular season. There can be no mistake in this instance, for I observed the flowers closely on their first appearance, as also on their subsequent development, convinced that the opportunity was one to test the matter fairly, not being a season when strawberries generally flower, so that there could be no chance of pollen being introduced from any source. I expect, however, to find the fruit seedless—at least, the seeds imperfect. WILLIAM SAUNDERS, Baltimore.—*Horticulturist*.



Mumma's Corn Sheller

The above sheller has received premiums at several State Fairs, and is very highly commended by those who have used it. It is said that a man and boy can shell with it 175 bushels per day, two men near 250 bushels, and a one horse power from four hundred and fifty to five hundred bushels.

It is recommended for shelling corn either damp or dry without regard to the size of the ear, and separates the grain from the cobs. By the change of a slide, it can be made into an excellent vegetable or root cutter. The box is about two feet long, one and a half feet wide, and two feet high. In the bottom is a concave shaped cylinder, 10 inches by 17, of wood, fenced with iron staves, teathed. Ears thrown in upon a board, serving as hopper, are held up to the cylinder by wood springs, so that butt and points have equal bearing as they pass out, the cobs on one side, and the grain drops below. It is double geared for hand power, with a fly wheel and pulley for horse power. Price \$22, and may be obtained at Paschall Morris & Co's., Agricultural Warehouse, 380 Market street, Philadelphia.

POST OFFICE MANAGEMENT.

It is seldom that we trouble our readers with complaints, but the gross neglect, or something worse, of the postal management, requires a notice at our hands, as well as a corrective remedy from the able and efficient head of the department.

More than three thousand copies of the December number of the Farm Journal lay in the Post Office at this place from Friday until Wednesday, for want of bags in which to transport them. The Postmaster here, we have reason to believe, did every thing in his power to procure the mail bags necessary, but they were withheld from some cause best known at the Post Office in Philadelphia.

This is not the first, nor the second time, such a case has occurred. Letters, too, which ought to reach us in three or four days, are often as many weeks in coming to hand, while numbers said to have been mailed to our address have never been received.

The State Agricultural Society.

The Executive Committee of the State Agricultural Society held a meeting at their office in Harrisburg recently, when it was ascertained that the receipts at the exhibition held in Pittsburg, amounted to \$17,500—deducting \$8,000 paid in premiums and other expenses, a balance will be left of \$1,000; which, added to the appropriation of \$2,000 by the State, and the sum in the Treasury and invested in stocks, will reach the sum of \$15,000.

We remind our friends through the State that the annual meeting of the State Society will be held at Har-

risburg on the third Tuesday of January, at which time premiums will be awarded on crops, as noticed in our last issue. These annual meetings should be better attended than they have been by our farmers, who, at such a leisure season, could readily spare the time, and would be well repaid. In other States they are made occasions of great interest. Every county society should be represented at Harrisburg, and a general interchange of views as to the best plans for promoting agricultural improvement in Pennsylvania, uniting the farming interests in some thorough and effective manner, developing its resources, and enabling our State to hold that position in this respect she is entitled to.

We have before spoken of the advantage of a public lecturer, well qualified, to traverse the State this winter, and deliver lectures at suitable points on agriculture and its kindred sciences, promote county or township societies and clubs, obtain and spread information, and establish a more perfect union between these and the State society. We are confirmed in the opinion much good would result from this course.

The project of a State Agricultural College and model farm will no doubt be brought up again, and prepared for legislative action during the winter. We hope previous difficulties are removed, and the interchange of opinions as to the proper plan, since the effort of last winter, will result in the speedy passage of the bill. The whole state is interested in having a State Agricultural School, where the sons of farmers, at a moderate price, can secure a liberal education, and at the same time be made acquainted with the science as well as the practice of agriculture. The increased production and wealth to Pennsylvania from the establishment of such a school, and hundreds of her young men, who would come from there, and diffuse the benefits of agricultural knowledge and skill into their various localities, cannot be calculated.

Philadelphia Agricultural Society.

We observe by the Germantown Telegraph, that through the liberality of fifteen members of the above Society who have contributed \$1000 each, a permanent Exhibition ground has been purchased, above Mt. Airy, a few miles from Philadelphia, convenient to several public roads, as well as a rail road, and where the future exhibitions will be held. This good example should be followed through the State, wherever practicable. The convenience of exhibitors and proper display of stock, &c., can hardly be rightly attended to where fixtures are merely temporary, and erected in a rough, incomplete and hurried manner. The names of these liberal gentlemen are: David Landreth, Phillip R. Freas, Algernon S. Roberts, Anthony T. Newbold, Samuel C. Ford, John S. Haines, Owen Sheridan, James S. Huber, George Blight, Isaac Pearson, Charles P. Fox, Hulings Cowperthwaite, John Turner, Gen. Robert Patterson, Robert P. Haines.

Lycoming County.

We observe the preliminary measures are being taken to organize an Agricultural and Horticultural Society in this county. A public meeting for the purpose was called at Williamsport on the 7th inst.

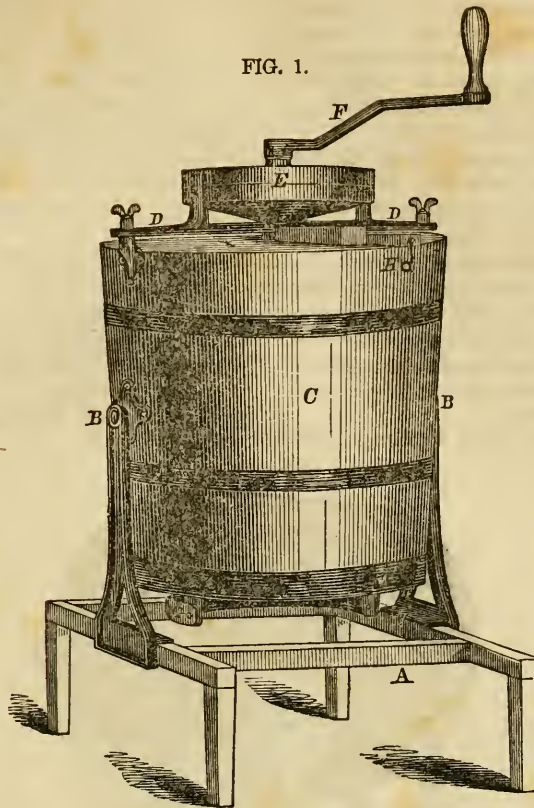


FIG. 1.

PEOPLE'S CHURN & BUTTER WORKER.

Patented October 5th, 1853, in the name of Henry K. W. Welch, Assignee.

FIGURE 1, Represents the Churn and Butter Worker with the tub in an upright position for Churning the Cream.

A is a Frame Work of any desirable material.

B B are two Standards or Supporters bolted or screwed firmly to the frame A.

C is a Tub, slightly conical on shape, containing the Fans or Beaters, and so hung to the tops of the Standards B B, that it may be easily swung into the position represented in Figure 2.

D D is a Diametrical Bar, across the open end of the Tub and supporting the Fans or Beaters and the Gear.

E is a Box with inside Gear resting upon the Bar D D.

F is a Crank.

G is a Bale or Fork which secures the Tub in the different positions represented above, by means of Pins in the frame work.

H is a Pin to which is attached the Slide securing the Covers.

FIGURE 2, Represents the Churn and Butter Worker with the Tub in a horizontal position for working the Butter.

A B C D E F and G, same as in figure 1.

K is a Slide passing under the Cross Bar D D, and securing the Covers.

I is one part of the Cover—the other part being similar to it with the exception of the aperture.

L L are the Fans or Beaters revolving in opposite directions, one within the other, and meeting at different points in the successive revolutions.

P is a small aperture for the escape of the Butter-milk and watery substances after bringing the Tub into a horizontal position and while working the Butter.

At each end of the Cross Bar D D, is a Thumb-screw, by means of which the Bar is firmly secured to each side of the Tub. These screws can be instantly removed and the Bar with the Fans and Gearing attached taken out—leaving the Tub entirely open with nothing to obstruct or hinder in taking out the Butter and cleaning the Tub.

It is obvious that the Fans or Beaters, from their configuration and from their revolving in opposite directions, must agitate the Cream and bring every portion of it into contact with the atmospheric air, more effectually than can be done by any other process. Consequently the operation of Churning is rendered much shorter and easier than by any other Churn ever invented.

But furthermore, this Churn will produce a larger weight of Butter from the same amount of Cream than any other Churn—because the Churning is so thoroughly done that every particle of Butter is extracted and not a drop of the Cream is lost.

After the Butter has come, place any convenient receptacle under the Frame, and having removed the upper part of the Cover, gently swing the Tub into the position represented in Figure 2—in which position all the

Butter-milk and liquid substances will drain off through the aperture P. By this arrangement there is a great saving of trouble and labor in lifting and pouring off the Butter-milk. With this Churn one person can do, with the greatest ease, what it would require the aid of several to do if any other Churn were used.

After draining off the Butter-milk, swing the Tub back to its upright position, sprinkle in the requisite amount of salt, and having replaced the upper part of the Cover, again secure the Tub in a horizontal position. Then turn the Crank as in Churning, and in three minutes time the whole mass of Butter will be more thoroughly and beautifully kneaded, rolled and worked, than can possibly be done by hand in any length of time—and the Salt will be more thoroughly and equally diffused through the entire mass, than it ever is or can be by any other process of working Butter.

By the aid of this Churn & Butter Worker, a single

woman can easily do all the Churning and Butter Making of a very large Dairy, and that too *without touching the Butter with her hands*. A few minutes after putting the Cream into the Churn, you can take out the Butter all ready for the Table or the Market—and nice, clean, sweet Butter too—without a particle of Butter-milk or other liquid substance in it, and more compact and firm, less liable to become rancid, and *which will command a higher price in market*, than Butter made by any other process.

Such is the testimony of all who have tried this greatest improvement in Churns and Butter Workers—and such we are satisfied all will find it.

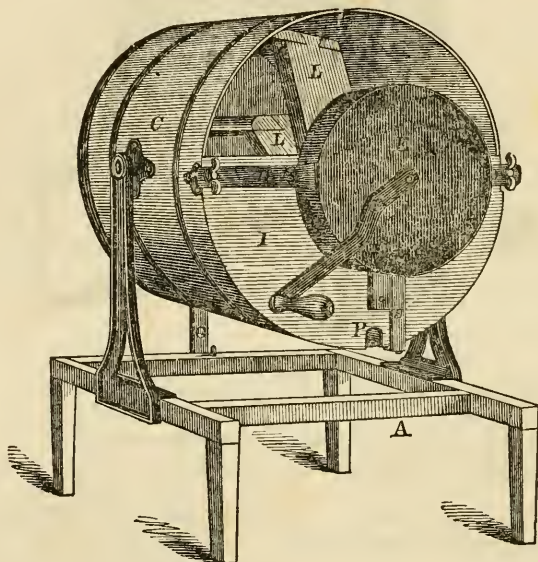
This Churn and Butter Worker took the first premium at the late annual Hartford County Fair.

Address,

A. H. WELCH, *Hartford, Conn., Agent*

for the Assignee.

FIG. 2.



The Maryland Cattle Show and Fair.

Circumstances preventing our attendance at the late Annual Fair of the Maryland Agricultural Society, we hoped some of our friends who were there would favor us with an account of it. As this has not been done, we are left to glean from our exchanges the following particulars relating to it.

The Fair was held on the Society's grounds, near Baltimore, occupied four days, and was conducted with great spirit. The lot contains over twenty acres, and, as many of our readers know, is devoted to the exclusive purpose of these fairs. Permanent buildings have been erected in the centre for the exhibitors of agricultural implements, agricultural and horticultural productions, offices, &c., &c. Shedding for the horses, neat cattle, sheep and hogs, are built upon three sides of the enclosure.

The number of horses exhibited was not large, nor were they generally of the very best class. Some fine animals showed what Maryland farmers could do in this

line, if they would turn their attention to improve their stock of horses, now generally rather diminutive.

The display of neat cattle was highly creditable. A number of Durham and Devon bulls and cows, and a few Ayrshires and Alderneys, rendered it apparent that this State was not likely to be left behind in the race for improvement in this kind of stock.

There were large numbers of very fine sheep, recently imported Merinoes, superior South Downs and Bakewells, as well as of native breed.

In the *swine* department the Chester county breed was well represented by a number of extraordinary specimens; the Berkshires were also plenty and very fine; the Suffolks were not so numerous, but those on the ground attracted much attention.

The *poultry* department gave unmistakable evidence of as high a stage of the *fowl fever* in Maryland as in some other States. Besides all the varieties of the chicken in good repute, there were turkeys, geese, ducks, guineas, pigeons, &c., in abundance.

Reaping, mowing and threshing machines, drills, seed planters, hay, straw and vegetable cutters, plows, cultivators, harrows, and many other agricultural implements, were in great abundance. Some of these machines are only a "plague to their inventors," while others not only enrich the patentees, but are of incalculable benefit to the farmers who have spirit and discernment enough to procure them.

The produce exhibited shows what may be done in this State, and it is believed that in a few years, when the farmers more generally give up their *antideluvian* mode of culture, and adopt the enlightened system of these exhibitors, that the aggregate value of the real estate of Maryland will be increased three or four fold.

Erie County Agricultural Society.

We have only within a few days received any account of the Exhibition of the above society, and which it now gives us pleasure to advert to.

It was held in the city of Erie, on the 6th and 7th days of October, being the sixth annual Exhibition. An address was delivered by Henry Gimrick, Esq., a copy of which we should be obliged to any of our friends in Erie county to forward us. It is spoken of as very able and appropriate to the occasion.

The premium lists quite a large one, and the contributions appears to have been not only numerous, but of excellent character in nearly all the different departments. A fine display of Horses, was made from Chataque county, New York, which the Judges say, for size, form, muscular power, evidence of good blood and good training, have seldom been exceeded. Durham, Devon and Hereford cattle, Cotswold, Merino and French Merino sheep, were exhibited in considerable number, and the best display of Poultry, of improved breeds, which has yet been made in Erie county.

A premium was awarded to J. Sherwin for the best specimen of basket willow.

Agricultural implements in great variety also, were on the ground, specimens of Wheat, Barley, Oats and Corn, Fruit, Flowers and Green House Plants, vegetables, articles of household manufacture, and a large number of miscellaneous articles, representing the mechanical skill and ingenuity of the county. The exhibition on the whole appears to have been highly successful. Judges state the contributions exceeded any previous one, and the most salutary effects are being produced in the county from their annual recurrence.

Will some of our friends there, please forward us a list of the officers of the Erie county Society, and their post office address.

Adams County Agricultural Society.

We are pleased to observe, that in this flourishing county on the southern border of our State, they have just organized an Agricultural Society. The greatest wonder is, that they did not do it before. They have adopted a constitution and elected the following officers.

President.—Hon. JOHN MAGINLEY.

Vice Presidents.—Maxwell Shields, J. L. Neel, Joseph J. Kuhn, John Musselman, Frederick Diehl, Wm. B. Brandon, Amos Lelever, Philip Donahue, Henry Reiley, Wm. B. Wilson, Joseph Fink, Hon. Moses McClellan.

Managers.—Thomas A. Marshall, John Gilbert, Abraham

Krise, of P., John Wolford, Samuel Young, Solomon Welty, John Horner. *Recording Secretary.*—Henry J. Stable. *Corresponding Secretary.*—D. McConaghy. *Treasurer.*—G. Arnold.

The large number and great success of the different county exhibitions the past fall, have no doubt stimulated the present effort, and which we hope will be followed elsewhere till every county in the State, has its own agricultural society.

Berkshire, Mass., Agricultural Society.

We have received from our friend W. H. Dillingham, of Philadelphia, who has been a constant friend of the Farm Journal, some memorials of the above society, (the parent one in Massachusetts,) dating so far back as 1817. In contrast with the present times, they are curious and interesting. In our next number we shall make some extracts from a letter to our friend Dillingham from Thomas Gold, one of their early Presidents, an accomplished scholar and able lawyer, dated in 1820. He was the father-in-law of Nathan Appleton, one of the merchant princes of Boston.

Virginia State Agricultural Society.

The first annual exhibition was held the week after that of the Maryland Show, and was attended with the most complete success. The President and several other officers of the Maryland State Society were present, who expressed themselves highly gratified at the spirit and enthusiasm displayed. \$50,000 were raised by voluntary subscriptions, during the exhibition, and the Society is thus placed on a solid foundation from the very start. The corporate authorities of Richmond subscribed \$5000. An address was delivered by Ex-President Tyler, at the close of the Exhibition. About 20,000 persons visited the grounds on the third day of the Show, when the Ploughing Match took place, for the prize of \$100, (given by Madame Sontag,) and elicited much interest. Madame Sontag was escorted over the ground by Wm. Bouliware, Esq., late Charge to Naples. The Richmond Whig says:

"We have never seen so many people in such good humor. The best evidence of the enthusiasm, which pervades the farmers, was the subscription for the benefit of the Society, on Wednesday night, of \$39,000. Numerous other contributions were made on Thursday, and the amount will probably be swollen to \$50,000. Richmond city subscribed \$5,000."—*American Farmer.*

New Castle (Del.) Agricultural Society.

At a meeting held on the 3d November, the following gentlemen were elected its officers for the ensuing year, viz:—President, John C. Clark; Vice Presidents, Giles Lambson, B. Reybold, T. J. Adams, Edward T. Bellah, J. J. Brinkley, M. B. Ocheltree, John Jones, J. V. Moore, Henry Cazier, J. L. Miles; Corresponding Secretary, C. P. Holcomb; Recording Secretary, Brian Jackson; Treasurer, Samuel Canby; Attorney, John A. Allderice.—*Am. Farmer.*

Hon. A. L. Hayes' address, before the York County Agricultural Society, has been received, and we take pleasure in making some extracts from it in another column.

James Gowen's address before the Mercer County Agricultural Society is also received, and we have prepared a notice of some portions of it. There are some positions in it, which have surprised many practical farmers.

J. A. Delafield and J. E. Teschmacher.

Our northern exchanges advise us of the recent death of two distinguished individuals, who have filled a prominent position before the agricultural and scientific community, and whose loss has excited general and profound regret. We allude to John A. Delafield, lately President

of the New York State Society, and more recently James E. Teschmacher, of Massachusetts. Of the latter it is said, "that, in his death, science, literature and the arts have been deprived of an earnest student and faithful expounder, one ever anxious to learn, and always willing to impart knowledge." A beautiful and comprehensive eulogy. The disposition "of being ever anxious to learn and ever willing to impart" is a constant attribute of all true genius.

We believe in both cases the removal was very sudden, and while it illustrates the fact "that death loves a shining mark," it also may serve to point out the moral that, *in addition* to our responsibilities and duties to society and our fellow men, which are no doubt more or less obligatory on all, there are others of paramount importance to *ourselves* in being prepared for the calls of the undeniable messenger, "the loosening of the silver cord and breaking of the golden bowl," which no one knows how soon may overtake him.

Remedy for Smoky Chimnies

The Scientific American states on reliable authority, that "if two feet above the throat of your chimney you enlarge the opening to double the size, for the space of two feet, then carry up the rest as before, your chimney will never smoke."

Domestic Recipes.

MAKE YOUR OWN CANDLES.—Take 2 lbs. alum for every 10 lbs. of tallow, dissolve it in water before the tallow is put in, and then melt the tallow in the alum water, with frequent stirring. This will clarify and harden the tallow so as to make a most beautiful article, either for summer or winter use, almost as good as sperm.

BUCKEYE BREAD.—Take a pint of new milk, warm from the cow; add a teaspoonful of salt, and stir in fine Indian meal until it becomes a thick batter; and a gill of fresh yeast, and put it in a warm place to rise. When it is very light, stir into the batter three beaten eggs, adding wheat flour until it has become of the consistence of dough; knead it thoroughly, and set it by the fire until it begins to rise; then make it up into small loaves or cakes, cover them with a thick napkin, and let them stand until they rise again, then bake in a quick oven.

JOHNNY CAKES.—Scald a quart of sifted Indian meal with sufficient water to make a thick batter, stir in a tablespoonful of salt. Flour the hands well, and mould it into small cakes; fry them in fat enough, nearly to cover them. When brown upon the under side they should be turned. It takes about twenty minutes to cook them. When done, split and butter them.

HOE CAKE.—Sift a quart of Indian meal, and a teaspoonful of salt, and a piece of butter the size of an egg. Wet it with milk, not very stiff; after you have stirred all well together, spread your dough about half an inch thick, upon a smooth board prepared for the purpose. Rub it over with sweet cream, and set it up before a good fire, supporting the board with a flat iron. When it is well browned turn it over, loosening it with a knife. After moistening it with cream, brown the other side, as before. When it is done cut into square cakes, and send them to the table hot, split and butter them at table.

AMERICAN FIGS, ALSO PRESERVED PUMPKIN, CITRON.—Have any of our readers, ever prepared peaches in the way recommended below, and do they come up to what is represented. It appears to us a very simple and valuable process, can mostly be performed by children, and in case of a glutted market for Peaches, as is often the case in a prolific season, could be practised on a large scale, to great profit. It is fear of an overburdened market, which often deters the farmer from fruit culture. If this difficulty can be obviated on the plan proposed for peaches and plums, it will be an additional inducement to plant orchards. They are said to keep indefinitely and are a great luxury. We extract the receipt from the proceedings of the Farmers' club, New York, to which we are often indebted for valuable information. They are published in the American Artizan of New York city.

Mr. T. B. CATLIN:—A lady in New Jersey preserves fine peaches in the style of figs. She scalds the peaches slightly puts fine sugar in them, and gently dries them to the condition of good figs, and they are better than true figs. She preserves plums also, well. She makes as good citron out of the citron melon as the true. She uses pumpkins also with good results.

HONE-MADE FIGS:—*As manufactured by Mrs. MARGARET GARRETSON, Somersville, N. J.*—Peaches to be peeled, cut in two, the pit taken out; make a thin syrup of sugar and water, put the peaches in while the syrup is warm or hot, and nearly boil for a few minutes; then take them out and place in slow oven till dry.

PUMPKIN.—Cut in large pieces and boil until soft in a little water, [cover the pot and a very little water will do] stew them out close, so as not to loose the sweetness; take out with a fork and lay them on plates to drain and cool; afterwards dry them in an oven with a very slow heat or dry them in the sun. When properly done, they have a pale, yellow look. When wanted to use put to soak the night previous to using.

HOMEMADE CITRON.—Melon (Nutmeg) when full grown, not ripe, and not soft, cut in squares, put into salt and water—made strong enough to bear an egg—for, from nine to thirty days, when they turn yellow, take out and put into fresh water to be freshened daily until the salt is all out. Then to make them green again, put them into boiling, water with a little alum, and kept hot for a while, but not to boil, then take out and boil till tender, in water, afterwards boil with sugar as with ordinary preserves say 3 quarters of a pound of sugar, to one lb. of citron, until the juice is all absorbed or nearly so, flavor with lemon peel or lemon drops. Take out and dry; if any liquor is left it can be dropped on while the citron is drying.

The cost is from 5 to 6 cents per lb.

WHITE SHEEP SKIN DOOR MATS.—Take two long-wooled sheep skins, and make up a strong lather of soap; the sign of proper strength is when the lather feels slippery between the fingers. When the lather is cold, wash the skins carefully in it, squeezing them between the hands so as to take all the dirt out of the wool. When this is accomplished, lift out the skins and wash them in cold water until all the soap is extracted. Have a vessel of clean cold water ready, to which some alum and salt, (about half a pound,) which have been dissolved in a small quantity of hot water, are added, and the skins left to steep all night. When the alum water has dripped off, they are spread out on a board to dry, and carefully stretched with the hand from time to time. Before they are thoroughly dry, a composition of two table spoonfuls of alum, and the same of saltpetre, are ground to powder, in a mortar or otherwise, and sprinkled carefully on the flesh side of each skin. They are then placed the one on top of the other, leaving the wool on the outside, and hung upon a rack of slats, in a barn, shed, or dry airy place for about three days, or until they are dry; they should be turned every day. After this, they are taken down, and the flesh side scraped with a blunt knife, and each skin trimmed for a mat. The flesh side may then be rubbed over with pipe clay, beat with a switch, and will then be found supple, of a beautiful white color; and fit for a door mat for a mechanic or prince.—*Mark-Lane Express.*

For the Farm Journal.

MY DEAR EDITOR:—Little did I think when I triumphantly read "The Husband's Complaint" in your December number to my wife, then seated at the "frame—forever doing fancy work"—that I should so soon be called upon to address you; but so it is—"read that, my dear," said she, "and send it to the Farm Journal"—laying before me the following answer. Of course I obey, and am ever your constant reader.

Wilmington, Del., Dec. 10th, 1853.

The Wife's Defence.

IN ANSWER TO THE HUSBAND'S COMPLAINT, AND ALL WHOM IT MAY CONCERN.

Well, to be sure! I never did! why what a fuss you make, I'll just explain myself, my dear, a little for your sake; You seem to think this worsted work is all the ladies do, A very great mistake of yours, so I'll enlighten you.

I need not count, for luckily I'm filling in just now; So listen, dear, and drive away those furrows from your brow:

When you are in your study, dear, as still as any mouse, You cannot think what lots of things, I do about the house.

This morning after breakfast, I heard the children spell, And I'm teaching little Mary to gather and to fell; I paid our washing bills, and then I went to see What remnants in the larder for our dinner there might be.

I've hemmed a duster, and I've made a bonnet cap for Mary,

I've finished Jenny's pinafore, and fed the green canary; I've taken in your collar, for you said it was too full, And after that I must confess I sorted out my wool.

I've read the paper, setting forth that sweet confiding trust Husbands should cherish for their wives, and I think it very just;

I've settled all my weekly bills, and balanced my account, With a lot of German wool to a very small amount.

Ah! now at last, my rhetoric convinces you I know That pleasant smile, and "yes, my love," it does become you so;

Besides to tell the truth, love, all the worsted work I do, My bags, my cushions and my mats, are all in compliment to you.

But now, my love, entirely to please you I declare, I've worked the splendid arabesque upon my vesper chair; Two hearth rugs and an ottoman, seven chairs, and after that

I hope to do some groups of flowers upon a carriage mat.

Enough of banter, yet believe, one word before we part, The rest perchance was fiction, but this is from the heart: The loving wife right cheerfully obeys her husband still, And even lays aside her frame, if it is his lordly will.

PATENT CLAIMS.

SEED PLANTERS—By R. C. Wren, of Mount Gilead, Ohio: I claim the combination of the slides, cams, and elbow levers or shifters, arranged and operating as set forth.

COMBINED INDIA RUBBER AND STEEL SPRINGS—By E. T. Russell, of Shelbyville, Ind.: I do not claim surrounding a column of vulcanized india rubber with a helical spring, as that is the subject of a patent granted to F. M. Ray.

But I claim the fluting a column of vulcanized india rubber longitudinally, and then so surrounding it with the helical spring, mine being an improvement upon Ray's spring.

SINGLE MACHINE—By Israel Grave's & C. A. Bogert, of West Dresden, N. Y.: We claim a machine for sawing shingles, and which may be adapted to sawing other irregular shapes, constructed with a gang of stationary and movable saws, arranged vertically in a saw gate, which moves up and down, the movable saws of said gang being caused to have a gradually lateral movement from and towards the stationary saws, while cutting by means of grooved cams, which operate upon the pintle of the sliding bars, carrying the movable saws, and thereby communicating said lateral movement to the said saws, at the same time having a movement slightly out of a

parallel line with the direction of feed communicating to them by other cams, which operate upon the pintle of the sliding bars, the said movement causing the stuff to be cut tapering or of any required form, as described.

MACHINES FOR POLISHING LEATHER—By Frederick Seibert, of Williamsburg, N. Y.: I claim a circular or curvilinear glass rubber combined with giving it a tilting motion for the purpose of enabling it, after passing off the edge of the leather at the end of the stroke, to roll back and mount upon the leather without scraping it up, as described.

IRON FENCE—By B. F. Miller, of New York City: I claim constructing the top and bottom rails in lateral halves, and holding said halves together by screws, rivets, or bolts, in combination with bosses or pivots cast on the inside of the respective halves of the rail with corresponding countersinks or perforations near the ends of the filling bars, as shown.

Frederick Smith, of Pontiac, N. Y., for Improvement in Water Wheels:

I claim ventilating water-wheels enclosed by a curb, scroll, or box, by means of a tube communicating with the wheel, or in any other manner substantially the same, in combination with the buckets, constructed and arranged as set forth.

W. Pierpont, of Salem, N. J., for Improvement in Cutters of Grain and Grass Harvesters:

I claim hanging the cutter blade at each end to a crank, so as to cause the rotary draw cut in form of a circle, as described, in combination with the counter rod for insuring the perfect revolution of both shafts in unison.

E. R. Morrison, of Troy, Pa., for Improvement in Shingle Machines:

I claim the combination of a reciprocating river and finishing knife, with a fixed knife, so that on the backward motion of the river, one face of the shingle shall be dressed, and by its next forward motion, the second face will be dressed by the fixed knife, substantially as described.

Wm. H. Hall, of Phillippi, Va., for Improvement in Grass Harvesters:

I claim the tram in combination with the staples on the arms, as described.

Management of Barn Yard Manure.

We extract the following article by Ph. Pusey, M. P. from the Journal of the Royal Agricultural Society. It contains many excellent suggestions, for the American Farmer, in regard to a matter, the importance of which, either theoretically or practically is but little appreciated, viz: the proper and economical management of our common barn yard manure.

The construction of farm-buildings, as I have always said must depend on the proposed management of the manure. But this is a doubtful question, even in practical farming; and chemistry can as yet say little about it, because we have analysis of the droppings or urine as they proceed from the animal, and if we seek to trace the changes which these afterwards undergo, we find, unfortunately, Bonsingault's analysis of prepared dung, on which we might have hoped to reason, are pronounced by Liebig* to be chemically incorrect. Walking then thus in the dark, it behoves us to be wary in following lights that would divert us from the beaten track. Our practice hitherto has been to make the dung in open farmyard, but to this practice two objections are raised, the escape of ammonia into the air, and of liquor into the neighboring ditch. For these two defects then various remedies have been proposed, one of them the use of liquid manure. Sometimes a drain is made from the cow-house, conveying the urine into a tank from which it is carted, and so distributed over the land. One farmer I see thus distributed the urine to thirty beasts unmixed in the last spring, having kept it throughout the winter. I feel bound to point out the heavy loss he has thus incurred. According to Sprengel the contents of a cow's urine stand as follows:

Water,	92,624
Urea,	4,000
Free ammonia,	205
Other matters,	3,171
	100,000

*Liebig's Agricult. Chemistry, 3rd Edit. p. 209.

The urea is the matter from which is formed by fermentation the ammonia which we seek to detain, and Sprengel desiring to ascertain how far water would serve the purpose, left one portion of the same urine pure and another portion mixed with an equal quantity of water; both to stand for a month. The result was as follows:—

Pure Urine.	
Water,	95,442
Urea,	1,000
Ammonia, partly uncombined	487
Other matters,	3,071
	<hr/> 100,000
Mixed Urine, omitting the water added.	
Water.	93,481
Urea,	600
Ammonia,	1,622
Other matters,	4,297
	<hr/> 100,000

"The addition of water," Sprengel remarks, "has this advantage, that the diluted liquid contains nearly four times" (more than three times) "as much ammonia as urine left to putrefy in its natural state, though it retained only 0·4 less urea."² He supposes that a cow produces 15,000 lbs. of urine yearly, and that by leaving pure urine in a tank we should thus lose 162 lbs. of ammonia, which, at Mr. Way's estimate of 6d. per lb., would be a yearly loss of four pounds sterling per cow; and this, too, as compared with the mixed urine.

The loss of ammonia on the mixed urine is severe, amounting in fact to one-fifth. Well may Sprengel say, "Whoever is obliged for want of straw to collect the urine separately, whoever, if compelled to do this, mixes no water with it, or fails also to employ some neutralizing substance to combine with the ammonia suffers a loss of manure which exceeds all belief. I can nowhere find how much water is necessary to save all the ammonia. If much, the application is greatly increased; but however much water be used, when we consider how slightly even a heavy shower of rain penetrates dry ground, I cannot but think that much of the ammonia after it has been delivered from the cart must be liable to escape. Besides, if the urine be collected separately upon system, what is to be done with the straw? It cannot be used separately as dry manure. Are we to cut it all up into chaff as food for stock? I do this myself, but it may be done, I think, too largely. There is reason to think, as we have seen, that the good effect of straw in supplying carbon as the substance of crops has been too much overlooked lately. Now it is clear that a large part of the straw eaten by stock is literally consumed by them, and is dissipated like smoke through their nostrils in their breath. According to Block, a sheep fed on 100 lbs. of rye-straw with water voids only 40 lbs. of excrements *solid and fluid*, so that more than half the carbon is wasted. The same thing, in fact, happens as in the obsolete Lincolnshire practice of threshing the wheat and burning the straw afterwards in the fields. If our stock eat the straw from 100 acres, we have in fact burnt the produce of 60 acres. It is an excellent practice to give chaff as food; yet if the manure be applied as proposed in a liquid form, we might burn too much straw. But there is another of the three great manuring substances, namely, phosphorus, about which we have to enquire in judging the propriety of employing liquid manure; and when one sees it stated broadly that modern science has decided in favor of liquid manure—when one reads, too, that in a Scotch county iron pipes are laid down over a farm of nearly 400 acres, at a cost of towards 2*l.* per acre, in order to distribute the urine of 150 cattle by hose over the entire surface,—however much one must respect enterprise and ingenuity, it becomes imperative to examine the philosophy of the arrangement. Now, it actually appears by the analysis of Bous-singault and of Von Bibra,† that the urine of the ox and the horse contain none of the phosphorus voided by them, which remains exclusively in their solid dropping. The arrangement, then, really seems opposed to theory as well as to practice, since an expensive and troublesome apparatus is laid down which not only leaves behind carbon, about which some doubt may exist, but actually forgets another element—phosphorus, known positively to be essential for a princi-

pal crop, that of turnips. It may be possible to amend the plan by mixing the solid droppings with the urine, and force both united through those pipes. It may be possible to force this pulpy fluid through a long range of pipes without clogging them, though I much doubt it. But even then, I ask, what is to become of the straw? Are we prepared to forego all use of it upon land; and if not, in what form is it to be applied? When the capital of landlords is so much wanted for undoubted improvements, it becomes a bounden though ungracious task to warn against what appears to the last degree questionable in science as well as novel in practice. We indeed have little or no experience on the subject; but foreign writers who are best acquainted with liquid manure seem least enamored with it. We have heard Sprengel, a German and a chemist, who says again, speaking of its German use as mixed largely with water: "The urine tanks are not such excellent arrangements as they are frequently represented to be, and it is in many cases more profitable to pour the urine over the dung in the dung-pit, or to supply so much that the whole of the urine may be absorbed." What says our other great authority, Bous-singault a French Chemist and farmer? "He is led to adopt the opinion of Mr. Creed respecting them, viz: that the advantages ascribed to them in Switzerland are exaggerated." Lord Spencer, I know, had strong objections to the housing of cattle, except of course the fattening beasts. When he first began farming, as he told me, it was the fashion for every gentleman who piqued himself on his farming, to soil his cattle; but he had seen the fashion expire. Sir John Sinclair visited a field of a Mr. Harley's, manured by an engine with cow-house drainage, which had been mown sixteen times in three years." This statement is, I suppose, forty years old, yet one would think it had been written yesterday.

This marvellous effect of liquid manure is not indeed due simply to the use of the liquid. The mere mowing would give more grass, because the feet of animals trampling at liberty while they feed at will, checks the growth of the young grass, and this I believe to be the principal reason why folding of sheep, as already mentioned, should afford, so much more keep than allowing them to range at large. The system seems especially suited for cows kept to supply large towns with milk, but even if the use of liquid manure were as desirable as a general practice, it seems scarcely suited to the health of young animals. Foreign writers always ascribe its adoption to scarcity of litter. In Switzerland, where it has been longest in use, the straw litter of the cattle is twice a week withdrawn from their beds and washed, and replaced but such a scarcity of straw is certainly not the grievance under which our arable farmers labor.

It has been proposed as a remedy against the escape of liquor to roof over the farmyard. But the straw lying loose would be apt, I think to get fire-fanged, as is now the case with horse litter thrown too thickly into the yard during dry weather. In this part of England the dung does not get made even in the open yards when our usual scanty allowance of rain at all fails. A roof for the dung-heap has been further also suggested. This may perhaps be required in Lancashire, but I would not venture it here.

Seeing, then, the lack of a remedy, it may be worth while to inquire into the extent of the disorder; and, first, as to the escape of ammonia. The two remedies which Bous-singault, as a chemist, proposes, are the exclusion of air and moisture. "The daily addition of fresh litter from the stables," he says, speaking, indeed, of the dunghill, but the principle applies equally to the yard, "powerfully impedes the escape of the volatile elements, protecting the inferior layers from the direct contact of air." The German Thaer, indeed, examined chemically the air collected from the surface of dung-heaps, and found little or no escape either of carbon or ammonia. Pressure our farmers provide by the trampling of beasts in the yard, and by driving their carts over the dunghills. With plenty of litter there need be no smell, even in a yard where eighty hogs are being fatted at once, as I have often experienced, but the pleasant scent of fresh wheat straw. Dry hot weather is the time when most waste occurs; and then it would be well, certainly, to screw a hose on the pump, and distribute water over the yard: for though chemists differ as to the changes which farmyard dung undergoes, all agree as to the utility of water in diminishing the volatility of the ammonia. They agree, that the urea in the first place, is a fixed salt, and that it becomes volatile as ammonia, but in what mode they do not agree. They also agree, which

*Sprengel on Animal Manures. See translation, Journal, i. 455.

† Liebig's Agricultural Chemistry, 4th edition p. 269.

is important, that in well-made dung more or less of this volatile ammonia is, in some unknown way, brought again into a fixed state. Sprengel thinks this is brought about by humic acid, arising from the decomposition of straw. Liebig denies the existence of such an acid, but says that decayed woody fibre has the power of absorbing ammonia to seven hundred times its own bulk.

Much ammonia, it seems likely, must be fixed in some way, because in dunghills which are ripe, and yet not decayed, one perceives little or no pungency of scent, while practice shows that such dung has not lost its vigor. There is danger then, that after all in applying the liquid portion apart, we may dissipate the very essence we are seeking to save, which would otherwise have been fixed by a natural process. Supposing, however, that we adhere to the old practice of making dung in farm-yards with the help of the rain from heaven, there remains the objection that the supply is sometimes in excess, and that a black stream runs away into some neighboring ditch. This picture, a very common one, is, I think, somewhat overdrawn; or rather, is sketched from dairy farms, where litter is scarce. On arable farms I doubt if the waste be very great. Much will depend, of course, on the average amount of rain, which varies, as we have seen in different counties. I have no experience on the matter, because my own yards have their vent upon catch meadows, over which the waste fluid is dispersed by the stream that runs through each yard; but Mr. Thompson's plan of a tank, as improved by Hannam, seems perfect. The farm-yard should be hollow in one part, and drains from the stables may empty into this part. Here straw may accumulate, and be steeped in the muckwater. To prevent its overflow, a drain should be led from the upper level of this hollow to a tank out of the yard, and by the side or in the centre of a paved hollow like a gravel pit. When the yard is cleared the dung can be deposited in this pit, and the liquid from the tank be pumped over it as occasion requires. I should add a well in case of dry weather, when the liquid in the tank might not suffice to keep the heat moist without the use of plain water. "Plain water," says Mr. Thompson, "has been found to answer exceedingly well." When the manure is to remain long in the pit, it is covered with soil, and both moisture and gas are so completely retained, that nine people in ten might walk unconsciously over it.

A still simpler plan, I think, would be the following. Let the straw-yard be shaped hollow to the centre, like a shallow dish. In the centre might be the tank, surrounded by a low wall, and from thence, with a pump, and hose, you might easily return the fluid drainings upon the straw. If perfection be sought in fixing ammonia, a little sulphuric acid might be poured into the tank. If there be occasion to lead manure straight from the yard to a heap in the field, I strongly recommend a foundation of road-dirt or earth, which will absorb the escaping fluids, and serve excellently afterwards to be drilled with artificial manures.

Some farmers are trying the cutting up of their litter, so as to apply the manure at once to the land. The difficulty which I see is in always finding land ready to receive manure. The manure is applied of course unfermented. Now, so far as we know, manure must be fermented, that is, the urea must become ammonia, before it can become food for plants. Still this forms no objection, because the transformation doubtless will take place under ground. The box-feeding system seems to have been firmly established by Mr. Warnes for *fattening* beasts. The box, about nine feet square, is sunk two feet in the ground, and is itself the tank in which the animal rises upon his own litter, and until his head touches the ceiling. Here the principle of pressure is relied upon singly for retaining ammonia. Care is requisite in supplying the litter, for if given on too freely, it heats; if not frequently enough, the air is tainted. So, on a large scale in Lincolnshire, the folding gates between yards are hung a yard high from the ground, and the straw accumulating is trodden down in the open yard by young cattle.

Whether sheep dung should be made artificially, under sheds upon boards, seems to me a doubtful matter. I have left off shedding my own sheep, having found that of two weighed lots the shedded lot did rather the best in January, and the folded lot in March. The sheep certainly has a good great coat provided by nature, which moreover, cannot be curried in confinement like the hide of a cow. My shepherd says that the sheep fat fastest in clear frosty weather,

because they eat more: and this is quite reconcileable with theory, if animals find fat ready made in their food as they do muscle, because, while taking in more fuel, they would take in more fat. It would be like an express-train, which uses more coals, but goes faster. On the other hand, I know as a certain fact that sheep which have been kept very warm in sheds upon boards, have eaten certainly very little, but have also been exceedingly slow in laying on fat. But as yet theory is at fault on this matter. Wet weather is what throws sheep back, and then they must thrive best under cover, though the alternation cannot be well reconciled with the animal's health, so that we must decide one way or the other, but which way seems to me as yet problematical. The balance seems to turn in favor of field-feeding on light land farms, yet there is some waste of manure in feeding off turnips upon the ground, if the crop be a full one and artificial food be employed. Even if ploughed as close as possible up to the fold, the plough cannot come in until a whole length is cleared from end to end. Meanwhile, the loss of manure has been in great part incurred. Every farmer knows the pungent stench which proceeds, in dry weather, from a fold of high fed-sheep, but in a few days, before the land can be plowed, this disappears, and with it ammonia has fled. Sheep-manure, is in fact peculiarly liable to this waste; for the solid proceeds from sheep contain ammonia as well as the liquid, and both ferment immediately. The remedy lies in using a breast-plow to turn over a thin paring of soil by hand as fast as the hurdles are shifted. It costs, perhaps, 5s. per acre; but this is no extra expense, because it saves the second plowing, which is other-wise needed to mix the manure equally through the land: an essential point, I need not say, for the barley crop. I am determined in future to breast-plough when possible, even within the fold; for the health of the sheep sometimes suffers, though in the open air, from this intense escape of ammonia. Professor Way, I may mention, has illustrated this evil; for he has ascertained that the soil of my own farm has the hitherto unknown property, that when mixed with fresh urine it hastens the fermentation by two or three days, which elay on the other hand retards or prevents altogether. Many other soils, no doubt, have the same property; but once buried, the ammonia is of course safe, and this practice of following the fold with the breast-plough is found to answer in Oxfordshire and Gloucestershire, where it is used regularly by many farmers.

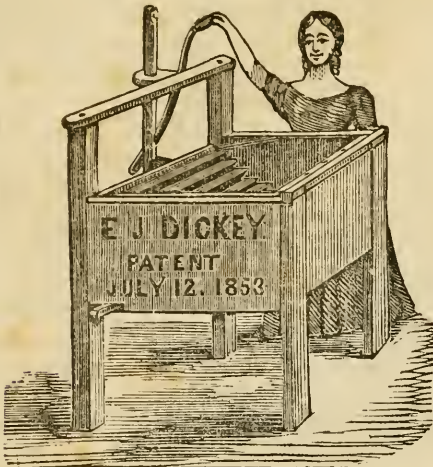
On the management of manure generally, it seems to me not that we should adhere rigidly to our present system, but that before this system undergoes a radical revolution, the various transformations of animal manure require to be traced by chemistry, with accurate investigation of its different stages, and that these results must be introduced into our practice, subject to the health of animals, and to the seasons at which manure is required. We are thus brought to actual cultivation. Before we consider, however, what a farmer *should* grow, the question arises, what he *may* grow according to the covenants of his lease.

Horse Power, Actual and Nominal of Steam Engines.

The Scientific American gives the following as the rule for determining the power of steam engines:

Horse power is an amount of mechanical force that will raise 33,000 lbs. one foot high in a minute. This standard was adopted by Watt as the average force exerted by a strong horse. His engines were made of a certain size, corresponding to their recorded horse power; that is the diameter of the cylinder afforded a key to the power of the engine, as the steam carried was uniform in pressure, and so was the velocity of piston. At the present day, we cannot say that a certain diameter of cylinder is the key to its power. The steam is the power, and some engines whose nominal horse power is given by the bore of the cylinder may exert double the nominal amount.

The number of pounds pressure on the square inch multiplied by the number of square inches in the area of the piston, and by the number of feet the piston travels in one minute gives the amount of impelling force—about one-tenth the power so calculated is deducted in large engines for friction—the remainder is the effective force, which if divided by 33,000 gives the actual horse power.



Dickey's Patent Butter Worker.

The subscriber is now prepared to furnish his patent Butter Worker to those engaged in dairying, and prefer good butter with little labor to that not so good with much time spent in its preparation. This has been proven to be a good invention, and one much needed. It is warranted to work one hundred pounds of butter in fifteen minutes, and with extreme ease to the operator, thus making the most arduous part of dairy labor easy, and at the same time improving the butter both in appearance and keeping quality.

The inventor is a practical dairyman, and after many trials has succeeded in getting up the present machine, which he thinks fulfils the object for which it is intended in as near a perfect manner as a machine can be made to do.

He adds a few testimonials from persons who have used it, to whom any may refer. For further particulars address the subscriber at Hopewell Cotton Works, Chester county, Pa. E. J. DICKEY.

The above Butter Worker is for sale at Paschall Morris & Co.'s Agricultural Warehouse, 380 Market street, Philadelphia, sole agents for that city.

NOTICES.

HYDROPATHIC QUARTERLY REVIEW.—We have received the first number of this new periodical, devoted to the system of curing disease and preserving health by the aid of water only, in its numerous modified forms, and other *natural* agencies, without the aid of drugs. It is published by Fowler and Wells of New York. Price \$2 per year.

Water cure treatment does not imply water only, as is commonly supposed, but perhaps more properly consists in the *disuse* of drugs. Pure air, light, temperature, regulated diet, and exercise, together with water, are made use of as the *chief* remedial agents, and not as *auxiliaries*, as in the common practice. In certain chronic diseases of long standing we have known water treatment (so called) to be highly beneficial. The work before us, as well as the other publications on the same subject, are well worth perusal. It is illustrated by numerous engravings.

WARDERS WESTERN HORTICULTURAL REVIEW.—We are pleased to see this valuable periodical, which has been discontinued for a short time, owing to ill health in the Editor, is about being resumed, "refreshed, and with recuperated energies from its state of rest." Jas. W. Ward, Esq., will be the assistant editor, and H. M. Derby, the leading publisher of the West, has undertaken its publication, to whom business communications are to be addressed. The 1st number of the new series will be issued on the 1st of January. Price three dollars a year in advance.

FARMER & PLANTER published monthly at Pendleton, South Carolina, and edited by George Seaborn and J. J. Gilmore. Price \$1 per annum in advance. This is a valuable periodical in quarto form, conducted with ability, and deserves a liberal support, which we hope it receives. There are comparatively but few agricultural papers south of the Potomac to represent the important interests there. Those in existence should be patronized and supported by every farmer and planter.

AMERICAN ARTISAN, a large weekly in quarto form, is published in New York City by John Bullock, 208 Broadway. It contains numerous illustrations, and is adapted, as its comprehensive name imports, to the interests of farmers, manufacturers and mechanics. It is well posted up in all domestic and foreign inventions, contains the regular proceedings of the farmers' club of the American Institute, a description of articles at the Crystal Palace, New York, as well as that of London, and a large amount of business and miscellaneous matter, also a business directory. Whatever other papers a person might take, he would gain by taking the Artisan.

Durham Bull, 4th Duke of York.

We regret to learn that this splendid Bull, purchased at the late Earl Ducie's sale for General Cadwallader, of Philadelphia, for 500 guineas, died on his passage from Liverpool to New York, in the ship "Queen of England." This is really a national loss which cannot be replaced, as he was of the best Durham blood of the Duchess family, which is now so highly prized. The London Farmers' Magazine said of him: "He is the beau ideal of bovine excellence. His magnificent size and perfection in every point of excellence, entitle him to be considered the brightest gem of Earl Ducie's herd, and if not the best Bull in existence, he certainly cannot be surpassed."

The thanks of the whole agricultural community are due to his enterprising purchaser for the effort to secure this bull for the United States, and there will be deep and general regret at his loss.

Taking the last census as the basis of calculation, there are at this time about six hundred million dollars worth of live stock in the United States. Their value exceeds that of all the manufacturing establishments in the country, and also exceeds the capital employed in commerce, both inland and foreign.

Three-fourths of the entire labor and capital of the United States is employed, either directly or indirectly, in agriculture.

PENNSYLVANIA FARM JOURNAL.

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WEST CHESTER, FEBRUARY, 1854.

NUMBER 2.

Essay on Plaster, by Dr. John A. Warder.

We do not think we can present a more acceptable leading article to our readers than the following excellent address, delivered before the Ohio Agricultural Society, at Columbus, December 7th, 1853, by Dr. John A. Warder, the learned and able editor of the Western Horticultural Review.

We studied Georgics in the same school, some twenty-five years ago, under the same teacher, with but little expectation then of laboring at the same oar in 1854.

Plaster is very extensively used in Chester county, and we think to a greater extent each year. In a recently published memoir of Philip Price, now deceased, but formerly one of our best farmers, it appears he was the first to introduce it here, and communicate the results of his experiments in answer to the queries of Judge Peters in 1796. He observes, "Eight acres then sowed with it plentifully, without other manure, became worth ten times what it was before I plastered it."

In relation to what our friend, Dr. Warder, says of land becoming "plaster sick," we may remark that it is now annually sowed with decided advantage on the same farm, (formerly Philip Price's,) although in a high state of cultivation. Our farmers usually sow one to one and a half bushels to the acre, and find it most available when applied early in the spring, so as to have the advantage of the early rains. Where it has been sprinkled on the corn hill, we have observed its effect in spots of grass, indicating where the hill of corn had stood, and this after passing through the usual rotation of corn, oats and wheat, in three seasons.

It has been found here particularly beneficial on clover, but the effects are not observed in a very dry season.

It is universally admitted, now-a-days, that although plants can wonderfully extract from the soil, the water and the air, those elements from which they construct their organism, they can still *create no atoms*; what we find in them, though gloriously fashioned and admirably compounded for our use and support, they must have obtained from some other source exoteric to themselves; the matter pre-existed, and so far as that matter consists of fixed or mineral ingredients, it has come from the soil, which is thenceforward so much the poorer in those ingredients. The relative quantities and quality abstracted in each case is ascertained by reducing the plants to ashes, and then analyzing the residuum. Having ascertained the constituents of mineral matter in any plant, we know exactly what it takes from the earth. So now we feel able to prescribe with more satisfaction for the malady of a sick farm. We feel its pulse by analyzing the soil to ascertain the deficiency, and then endeavor to make up the want, or to restore the balance.

Among the many special manures of the present day—

and their name is legion, and their character, too, highly respectable, many of them being the results of the highest human skill and ingenuity, directed in this channel by men who are real benefactors of their race—it is my purpose to direct your attention, upon this occasion, to a chemical manure from the great laboratory of nature, one whose wonderful effects upon vegetation have long been known in some parts of the world, and whose influence, as reported in some cases, appears almost to belong to the marvellous, but whose action and *modus operandi* have been terribly misunderstood by many of those who have attempted their explanation. I refer to PLASTER OF PARIS, GYPSUM, or SULPHATE OF LIME, a heavy mineral, not very soluble in water, requiring 500 times its own weight for solution, and which needs to be applied in a very small portion to produce great results.

Among the explanations that have been offered to account for the effects, the doctrine of *stimulus* has been a favorite with many; the plaster was said to be to the clover what the glass of bitters was to the man—it stimulated the individual to great efforts, while it made him at least feel great; but in time it was discovered that there was a limit, beyond which exhaustion ensued. Now I beg you not to imagine that I believe in any such notion—but that every manure is either directly food for the plant, or it enables food to enter the organism—as a botanist I can assure you that plants have no nerves, why then look for stimulants?

The true stimulants of vegetable life, so far as we know, the *only stimuli* are the wonderful agents, *Heat, Light and Electricity*. These certainly do exert a manifest and most important influence upon vegetation, which cannot proceed in a perfect manner without them.

The use of Gypsum was perhaps known to the Romans. In modern times it was discovered to be a manure by Myer, a German clergyman, in 1768. The story is that he observed the grass growing more luxuriantly beside a pathway than anywhere else in the field. Having his attention aroused by this observation he attempted to explain it, and while studying the possible causes, he discovered that the pathway was constantly used by workmen from a mill in which Plaster was ground for use in architectural ornaments; these workmen carried much of the dust from the mill, which fell from them beside the path, and might have produced the effect. Experiments developed further proof, and this was afterwards confirmed by Dr. Franklin who applied plaster to a clover field, in the form of certain letters, there the crop was so much improved that the words could be spelled in deep green letters, they indicated, "*this has been plastered*." Here was a new kind of sympathetic ink. Meyers and Franklin both contributed to the introduction of this manure, in their respective countries, and it has been much used ever since. Wherever its virtues have been appreciated and its introduction has been practicable and convenient, it has often been carried hundreds of miles. In the old States especially, and on the Atlantic seaboard, where water-communication is extensive, whole States are supplied with this substance from Nova Scotia, where it abounds. Western New York has a bountiful supply near Seneca Falls; here in Ohio we have a deposit on Sandusky Bay, that has long been worked by Mr. Lockwood, and where additional mines have recently been opened by the brothers Marsh. In western Virginia I discovered a deposit on the New River, a branch of the Kenawha, upon a high road, and at an important crossing place, the ferry near Paris, and yet at this very ferry, wagons were crossing, loaded with plaster, which they were transporting over the mountains for eighty

miles; so apt are men to overlook the treasures around them and beneath their very feet.

The explorations of the head-waters of the Red River, however, have developed the most astonishing deposits of this mineral in the world.

From analysis we learn that sulphur is a constant and apparently necessary constituent of the gluten and albumen of the several varieties of grain, and of the legumin, which forms the largest part of the substance of the pea, the bean, the vetch, and of the seeds of other leguminous plants, among which the clovers occupy a very important rank in our husbandry.

This substance must be obtained from the soil, hence the propriety of applying sulphates to all soils that do not contain a sufficiency in their combinations. So then we may assume that, in their general action, the sulphates act in this manner, for very dilute sulphuric acid produces similar effects.

Sulphates, however, exercise a special or specific action upon vegetation, dependent upon their chemical and also upon their physical properties.

If taken up into the circulation by plants they must be soluble—now gypsum is soluble in a small degree, say $\frac{1}{4}$ lb. to a gallon of pure water, still in a country like ours, blessed with rains and showers, enough will be dissolved to meet the exigency.

If the soil to which gypsum be applied be deficient in lime, this substance also performs its part in supplying that element to vegetation, but this is an expensive and small way of applying calcareous manure, although, in consequence of a deficiency of lime, the application of plaster will be followed by more marked benefits.

The effects of the application of this manure are in some cases absolutely astonishing—while in other cases its use has not repaid the trouble and expense of applying it. That it is especially applicable to clover and other legumes is a notorious fact, its effects being much more remarkable upon these than upon grain and other crops, though upon most vegetables it has been used with the greatest advantage. Lampadius, a German writer of eminence, states that by its use the clover crop in Germany has been increased one-third, and consequently the amount of stock kept was in the same proportion.

The soils benefitted by this manure may be indicated by theory when we know their chemical constitution, but experiments systematically conducted are of infinite importance, and as the article is accessible at a reasonable rate all are urged to proceed with trials and report the results.

The fertilizing power of gypsum has been explained by its action upon ammonia in the atmosphere.

Kollner thinks the action of gypsum depends upon the power possessed by lime to form with oxygen of the atmosphere compounds which are favorable to vegetation.

Ruekert considers it food.

Mayer and Broom think it improves the constitution of the soil, or its physical properties.

Reil looks upon it as an essential constituent of the plant.

Hedwig calls it the gastric juice and saliva of plants.

Humboldt, Gertaner and Albert Thaer, call it a stimulant to the circulation.

Chaptal thought it supplied water and carbonic acid to plants.

Davy considered it an essential constituent of plants, because it acts only where gypsum is deficient in the soil. Others suppose it promotes fermentation in the soil.

Liebig thinks it valuable by fixing the ammonia of the atmosphere. (Refer to book.)

Braconnot and Sprengel say it supplies the sulphur for the legumin of plants.

Theoretically, it attracts ammonia from the atmosphere and retains it for the use of vegetables—it not only is absorbed as food by certain plants, but it performs chemical changes of great importance in the soil, by changing the condition of other elements and bringing them into play from an impracticable form. Thus it is said to “fix” the ammonia—note this “fixing” is forming a solid and soluble substance from a volatile and gaseous one. The ammonia of the atmosphere exists as a volatile substance called carbonate of ammonia, known as *sal volatile*, this is sifted off of the air by the gentle rains and brought down to the earth, but it is liable to be evaporated and lost, as unfortunately it too often is from the manure heaps, to the great injury of the farmer and annoyance of those who pass by. Now this

rain water or dew, charged with ammonia, coming in contact with the gypsum, the sulphuric acid of the plaster unites with the ammonia, while the carbonic acid that was combined with the latter unites with the lime and forms carbonate of lime—here then we have four substances to feed plants with instead of two, and the ammonia is fixed.

Sulphuric acid to furnish Sulphur.

Carbonic acid to give Carbon.

Lime to be taken up as Lime.

Ammonia to furnish Nitrogen and Hydrogen.

Now all these substances are constituents of plants, hence food, but there are other functions to be performed. The Sulphuric acid decomposes the humus, and dissolves other insoluble parts of the soil, and Ammonia is believed to act a very important part as a solvent by combining with certain substances in such a way that they may be rendered acceptable to the plants into whose composition they must enter, and in which we find them, though from their insolubility in water we had never before understood how they were taken up by the plants, of these is *silica* or flint, found especially in grains and grasses. If then Ammonia be an important aid to vegetation, directly, by its decomposition and use as food by the plant, furnishing the important elements, Nitrogen and Hydrogen, and also indirectly by acting the part of a carrier, let us see what an amount may be fixed by the plaster, that we may judge of its value in this way. 100 lbs. of plaster will fix, or unite with about 20 lbs. of Ammonia, and this consists of 16 $\frac{1}{2}$ lbs. of Nitrogen, which is known to be an important constituent of vegetable *gluten*, that element of plants which forms the animal muscular fibre, but in the carrying trade it may be that the ammonia is sent back for a new supply after having delivered its first load; it may be used continuously while the formation process requires its aid.

PROPER SOILS.—J. P. Norton, in his prize essay, speaks very favorably of the use of this substance, and refers to instances of poor land having been restored to fertility by its use. Of the truth of this, however, there can be no doubt, as a general proposition, after the oft repeated applications of this manure which are familiar to the public. An important question arises what soils are to be benefitted by its use? Here we find the testimony of authors and farmers much at variance, but certain general data may confidently be assumed, as supported both by science and practice, which should always tally with one another, and generally do so when read aright. Soils that contain sulphate of lime in sufficient quantity will not be benefitted by applying more. Soils that contain too much humus (humic acid) or vegetable mould, it has been suggested should not be treated to a large dose of plaster, lest the changes might result in removing the lime and combining the sulphuric acid with other bases to form soluble salts prejudicial to vegetation.

Some persons find it most efficacious upon dry and gravelly soils, others upon heavy and loamy fields, but others furnish opposing testimony to each class. I imagine the efficacy of the manure depends much more upon the chemical composition of the soil, than upon its state of disintegration or the prevalence of clay or sand, although from recent developments concerning the action of Ammonia, and discoveries regarding the power possessed by clay of retaining Ammonia in the same curious manner that has been observed in charcoal and other carbonaceous matter, the inference would be that, from the *absence of alumina*, plaster might be most marked in its effects in sandy soils, where its presence would be invaluable in fixing the Ammonia. It is valuable upon limestone soils, as well as in those destitute of this material, but mere lime, where that element is deficient in a soil, may be furnished much more cheaply in the form of carbonate or hydrate of lime (chalk, lime dust, or better, *slaked lime*).

In soils quite exhausted, and in which there is very little vegetable matter, this manure will not produce marvels, but even here, if barnyard manure be applied, and green crops be plowed in, the most astonishing effects may be produced.

It has been a matter of complaint, very commonly heard in some places where this manure has been extensively, but injudiciously, employed, that it failed to produce the desired effects after repeated applications, it was very good at first, but now “the land is sick of plaster.” This was no doubt true, but shrewd, observing farmers, who continued to find its effects beneficial upon their lands, had invented another saying, “plaster has made your fathers rich, and now it makes you poor,” this is equally a truism, but may be explained very

satisfactorily by observing the history of these plaster sick farms, examining the symptoms, and applying common sense reasoning to the subject. In the first place, no one will pretend to say that plaster contains all the elements of plants, that it can act as their only food; such is clearly not the case, and yet the history will show us that the farmer was unreasonable enough to expect such a result, for he too often carried everything off from his land, making it plaster sick, because he returned nothing to compensate for the loss of other elements removed; whereas, the wise neighbor, who did not place the money from his increased plastered crop, all into his pocket, but returned a large portion of it to the soil in the shape of abundant manures, was able to go on reaping the benefits to be derived from the application.

Upon wet soils plaster has generally been found to be of less value than upon those of a dryer and more porous character.

It may be mentioned here that a very general impression prevails that hogs and cattle prefer clover grown under the influence of gypsum, passing the whole length of a field over a fair crop to reach that which had been plastered.

From a late number of the Pennsylvania Farm Journal, a periodical of great merit, it appears that a Mr. Alexander has reported an important experiment of its application to corn, from which is deduced the inference that it requires a considerable amount of rain to render its use most beneficial. His corn, to which it was applied very early, before the drought of last summer set in, was much benefited, and withstood the dry weather, but that put on just before the commencement of the drought did not produce its effects until the late rains had supervened. This is confirmation of my favorite view of the efficacy of this manure, that advanced by Liebig, and hence the important deduction of Mr. Alexander, which he has carried out in practice, that it is best to apply the plaster as soon as possible, either broadcast over the planted ground, or directly upon the hill; indeed he gives the preference to the former mode of application. He prefers, however, in practice to scatter it along the drill over the newly planted seed.

The substance has been applied at the rate of from 1 bushel to 20 bushels per acre—the former amount is preferred by many farmers. It is generally sown broadcast upon the young clover just as the foliage is developing itself handsomely, or upon the tender blade of grain crops in the spring, and to yellow corn by strewing a portion over the pallid leaves when the young plants look feeble. The application is best made when the air is still, and the foliage is moist from dew or rain. To potatoes it has been applied with good effect, and by some it is supposed to have checked or prevented the disease. 5 or 6 bushels per acre have been applied to corn and potatoes, but the usual amount is from 1 to 2 bushels. It is not considered best to renew the application every year.

In the barnyard, however, it should always be used; independently of its ultimate benefit to land, to which the contents of this mine of farmer's gold is to be applied, here is the place to use gypsum; and its great efficacy here is to fix the ammonia that is constantly escaping under the influence of fermentation and decomposition, flying off into the air to annoy your own and your neighbor's olfactories, and perhaps leaving your own crops to be precipitated upon those of others whom you may not care thus to benefit at your expense.

In the stable, especially during summer, a sprinkling of gypsum acts charmingly as a *deodorizer*, or purifier, to the great relief and benefit of both horse and man. In the compost heap—if such a thing exists upon any farm within the limits of Ohio—the presence of this substance is invaluable, for reasons elsewhere set forth. In the State of New York, one of the model farmers, whose name I do not now recollect, keeps all his cattle tied up and soiled with green food during the summer; the manure is removed twice a day to covered pits, to which plaster is applied, and the stables are dusted with the gypsum, so that from neither is there any smell or disagreeable emanation.

WINDOW GARDENING.

We commend to our female readers the following excellent article from the English Gardeners' Chronicle. The extreme kindness in daily or twice daily watering of window plants, we so often observe, is certain death, if not speedily to the plant itself, at least to its healthy growth and fine

blooming. As observed, "the watering should be copious each time, and allowed to run entirely away," so as to prevent the plant from being always saturated.

There are many who have not the convenience of a greenhouse, who are, nevertheless, fond of flowers, who spend considerable sums yearly in purchasing plants, and bestow a great deal of pains in attending to them. It is not to be denied, too, that, after all their endeavors, their plants frequently look sickly, and finally die. The blame is often laid at the door of the florist who supplied them for not giving healthy plants, when almost in every instance the fault lies with the buyers. The plants, it is true, which come into the market have generally been under a high state of cultivation. They have been regularly watered, potted in soil according to their different habits, and grown in pots according to their size. The heat, air, and light, have all been arranged and regulated as the utmost skill and experience could suggest. The transition from all this regularity to the tender mercies of the purchaser is soon felt. Drowning or starving, or neglecting altogether, is no uncommon fate. The pots are taken home, put into pans or saucers, deluged with water, and the water left in the saucers, or they are set in some conspicuous place, and left to their fate. In the first case, the leaves turn yellow and drop, the flowers fall, and in a very short time all that can be seen of them is their naked stems, with little tufts of green on the tops or points of the shoots, which a few days before were in perfection; in the latter case, the plants die with all the leaves and bloom upon them. Nearly all the evils attending plants grown in windows are to be traced to these two causes. I will therefore attempt to lay down a few general rules, which, if properly attended to, will do away with nearly all the complaints under this head. 1st. Never water but when the plants actually want it. That is easily known by feeling the soil with the finger, or giving the pot a rap on the sides with the knuckles. While it is moist no water is needed; when it feels dry, then water—which latter will not be oftener than three times a week in autumn and winter, and every day in spring and summer—giving it copiously every time, and allowing it to run away entirely from the plant, so that the pots may never stand in it. The water used should be either rain or river water. If necessarily from the pump or spring, it ought to stand in the air a day or two before using. 2d. Give plenty of air at every possible opportunity, when the weather is mild, either by having the window up, or by removing the plants outside. If, in warm weather, this is done under a bright sun, the pots will have to be shaded, as the sun upon the sides of the pots would prove injurious to the young roots, and would greatly injure the plant; and if in bloom and exposed to the sun, the flowers would soon fade and drop. 3d. Keep the rooms where the plants are of as uniform a temperature as possible, and the plants themselves as near the window as is convenient, except in severe weather, when they are better near the middle of the room during the night. 4th. Examine them occasionally, to see if the pots are full of roots. If this is the case and the plants are worth it, get some good soil, and shift them into pots a size larger; or if not shifted, be more careful in supplying water, as they will require more when in this state. In summer, water them frequently over the foliage, but not except they also need it at the roots as well. These may be adopted as very general rules, though more absolutely necessary for some plants than others, but very good for all. There is a good deal to be considered in buying plants, in making the proper choice; for, however gratifying it may be to have those which look best in full bloom, it is most satisfactory to have those which last longest in perfection, especially those which have a succession of bloom, and whose foliage is interesting when the bloom is gone. This rule may be deviated from in behalf of Tulips, Crocuses, Hyacinths, and other bulbs, which are valuable when little else is in flower. These will also bloom in the darkest streets of our cities. They ought to be purchased either in the beginning of this month, when the roots are dry for planting yourselves, or in pots when they are beginning to grow; for if delayed till they are in bloom, nine-tenths of their value is lost, because they are interesting in every stage of their growth, from the first formation of the leaves to the perfection of the flower. Every day of development has its charm; and therefore they ought to be possessed from the first. If in pots, all these require a plentiful supply of water when in a growing state; and if kept cool after showing flower, their season of blooming is prolonged.—H.

Profits of Good Farming.

Our friend, Mr. JOHN CRAVEN, of Beaver township, in this county, furnishes us with the following estimate of the proceeds of 6 acres of land, and the expenses of farming the same:

660 bushels of Corn, in the ear, at 25,	\$166,60
180 bushels of Potatoes, at 25,	45,00
Fodder and Pumpkins,	48,00

Whole Proceeds, \$259,50

Hire of Team,	\$13,00
Board of hand and team,	10,00
Planting,	4,38
Harrowing,	4,00
Horse and Cultivator,	5,00
Horse Hoeing,	5,00
Seed Corn,	1,00
Husking,	7,00
Board of hands,	17,75
Seed Potatoes and working,	10,00

Whole Expense, \$77,63

Leaving a balance in his favor of \$181,87. Mr. CRAVEN does not give this information by way of boasting, but merely for the purpose of showing the profits resulting from judicious farming. The crop is not so large as some raised in counties farther south, but is an excellent one for the locality. He is well known to the people of north-western Crawford, as one of our best farmers, and is up with the times in all improvements necessary to carry on his business in the most expeditious, least laborious, and most profitable way. His implements are of the most approved kinds, and are always in good order. The result above shows that a single crop has more than paid for the land on which it grew, at \$25 per acre, a high price for land in his section.

Wintering Domestic Animals.

A most important annual era is now commencing with the farmers of the whole country. They are beginning a period of nearly half a year, when all their domestic animals should be fed chiefly with dried or artificial food, and when cold, storms, wind, snow and rain, are all operating to weaken or waste the flesh of their farm stock, unless a good system of protection and precaution is adopted at the outset.

The vastness and importance of this branch of successful husbandry is almost beyond comprehension. The census returns inform us that 600 millions of dollars are invested in the live stock of the union; yet this does not furnish a full index to their value, which is intimately blended with the manufacture of manure, the manuring in the production of all crops—and on them depend the forces, the general economy, and not only their direct profits in the sale of butter, cheese, wool, beef, pork, lard and tallow, and living animals are as intimately connected as the woof and the warp of the weaver's fabric.

The losses from the bad wintering of farm stock are enormous. Estimating that one-half of their value is required to carry them through the average four months of winter, (which in the extreme north is nearly six months,) we have three hundred millions of dollars to be expended upon them the country over between the present time and the period of the spring pasture. Would it not be safe to say one-third or one hundred millions—enough to make a Pacific railway—are annually lost, literally sunk, by bad management? Let us look a little at this part of the subject.

We have shown on former occasions why animals must consume food to sustain their warmth in cold weather, as well as for the support of their flesh. A man who rides in an open cutter in the cold all day, will find it necessary to eat nearly twice as much as when taking as much exercise in a warm stove-room; and every farm laborer has found that he eats more when chopping cord wood in the wintry frost, than when cradling wheat under a burning sun. It is the same with animals; when exposed to wind and storms, a large portion of the food they consume must of necessity go to keep up the heat; and the farmer must either give them additional food, or see them decline in flesh—for the warmth is a part of vitality, and must be kept up, flesh or no flesh, while the animal lives.

Careful observers who have provided ample and comfortable shelter, think that one-third of the food of cattle is saved by such protection, the condition as to the flesh remaining the same as when subjected to exposure. When they are suffered

to lie on wet straw, or on damp ground with no straw at all, the cold affects their wet bodies still more. Milk cows give more and better milk when well cared for, and horses are stronger and more lively for work. Sheep furnish finer wool and more of it, fewer perish by winter, and all come out in better condition in spring, when protected from the blasts of the wintry tempests; a skilful sheep raiser thinks his sheep-barns and sheds were thus paid for in two winters. The wintering of store pigs would be a far less expensive item of farm economy, if warm, comfortable and clean quarters were always assigned them.

In addition to the immediate and present loss from exposure, there is another formidable loss of a more remote but not less real character. This is the check or stunting in growth which young animals receive, and which they never get over. Let two be fed and treated precisely alike, at all periods of their growth, with the exception of exposing one to snow, rain, mud and discomfort for a single winter, while the other has warm, dry quarters and good, regular food; and that winter will be impressed upon them, and an indelible historical mark, in their relative sizes, for the rest of their lives. To say nothing about the loss of fodder by treading in mud, feeding irregularly or in over and under doses, and out of time, and other wasteful practices, we are satisfied that the above mentioned causes occasion a waste of at least one-third of the wintering, and that the hundred million estimate is not extravagant.

Why will farmers continue longer to pursue this costly, slipshod treatment? Why not lay down for themselves a set of rules, something like the following, and show that they have industry and energy to practice them with rigid exactness:

1. To shelter all fodder well, so that the weather may not waste its strength.
2. To shelter well the straw for litter, so that it may be always dry and comfortable.
3. To feed regularly, both as to time and quantity, that the animals may never fret from delayed meals, or from stinted supplies.
4. To give every night a good bed of dry litter, that the animals may not become chilly from dampness.
5. To keep their places of repose clean, and their hides cured, that they may not suffer the discomfort of filth.
6. To provide ample racks and feeding boxes to prevent a waste of roots, meal and fodder.
7. To give special attention to growing animals, that they may not become irrecoverably stunted.—*Country Gentleman.*

On the Disease and Preservation of the Potatoe.

It is now more than ten years, we believe, since what is called "the potatoe disease" first appeared in our country, and every year since then, although many plans have been tried to prevent it, its ravages have always been more or less manifested every season, and in none more fatally and universally than the present, excepting the terrible year of 1846 when it may be said to have been the means of depeopling Ireland of more than two millions of inhabitants. This disease has not been confined to any locality, for it has extended with more or less virulence over every country in which this useful tuber has been cultivated, consequently the cause of the disease must have been general, and a remedy for it would be hailed with gratitude by more than two hundred millions of the human race. We have published much useful information on the subject, and nothing but what was practical and sensible, and we take pleasure in laying before our readers again some new information which we look upon as valuable and worthy of being acted upon by our agriculturists. T. J. Herepath, an English chemist of celebrity, has written a letter to the "London Chemical Gazette," giving conclusions at which he has arrived after a great many experiments, respecting the cause and cure of this disease. They are as follows:

1. That the potatoe blight is neither directly nor indirectly caused by the ravages of any parasitical insect.
2. That it is the effect of a species of putrefactive fermentation or incipient decomposition of the nitrogenous, *i. e.* albumenoid constituents of the sap or cell-contents.
3. That this decomposition, is either directly produced by a peculiar fungus, the "*Botrytis infestans*," to which public attention has been already directed by other writers or, what is in my opinion a still more probable supposition, the fungus referred to only makes its appearance after the fermentative

process have been in action for some time, and consequently is an effect, and not the cause of the disease.

4. That the blight has been in some measure produced by the long-continued and indiscriminate use of animal nitrogenous manure, which has over stimulated the potatoe plant and has thus rendered it more susceptible of disease, and has in fact, produced the same effect upon it that alcoholic drinks when taken in excess, do on the human system; that is to say, it has injured the stamina of the plant, and rendered the organism more readily affected by atmospheric and other influences.

5. That animal or highly nitrogenous organic manures should be used with great caution in the cultivation of the potatoe, and indeed in that of all root crops; the best manure for the potatoe plant being the inorganic compounds, such for instance, as those which are, or were at one time used in some parts of the continent.

6. That the disease having once established itself, has become epidemic.

7. That it is contagious, if not infectious.

8. That the only mode of eradicating it is to restore the original constitution of the plant.

9. That this desirable result can be only brought about by introducing a complete alteration in the mode of cultivation that is adopted.

10. That the changes in question should consist,—1st, in thoroughly drying the seed potatoes, by the process now followed in some parts of Germany; 2ndly, in steeping them for a short time in a dilute solution of the sulphate of copper (blue vitriol or blue stone) of about the same strength as that used for 'pickling' wheat; 3dly, in planting them in poor well drained land; 4th, and lastly, in substituting for the farm yard manure, &c., now employed, some inorganic compost similar to those before alluded to.

In conclusion, I would suggest that the following simple experiment should be tried in storing the potatoe crop during the present season:—Let the tubers be stored in the usual way, but in the centre of each heap or sackful let there be placed a quantity of unslacked lime, not in usual contact with the roots, but enclosed in some porous vessel—an old wicker basket, for instance—and covered over with and surrounded, by a thick layer of straw or hay. By this means the tubers will be kept dry; and as the presence of humidity in the air is a great incentive to putrefactive decomposition, one of the main causes of decay will be removed. The lime, so soon as it has become slacked may be taken away and employed as manure; and, if practicable, should be replaced with fresh lime. The experiment I have described, it must be remembered, can be easily tried, and would cost but little even if carried out on a large scale; it cannot be productive of any injurious consequences, and will be doubtless attended with beneficial results."

The manure recommended here is that of *plaster* and such like substances. The experiments mentioned can easily be made and should be instituted so as to test them thoroughly. The manner recommended of storing potatoes can be easily tried by our farmers this winter and we hope it will be by many. It can do no harm, and will involve no expense worth mentioning.—*Scientific American*.

Walks on Hilly Ground.

In a season like the present, when heavy drenching rains succeed each other in quick succession, the comfort of a good gravel walk can scarce be over-rated; it is, therefore, a serious drawback when paths are not good; and there are many that are not so, owing as much to the injudicious manner in which they have been made, as to the indifferent materials of which they are composed; but there are walks likewise with which in ordinary weather no fault can be found—but which after heavy rains present a guttered and broken appearance; such walks are those on hill sides when the water is sure to break them up into gullies, more or less deep; now to obviate this defect, many walks are provided with outlets at sides, where the water is caught by an earthenware pipe, which conveys it to some subterranean channel. Now these outlets or eyes as they are called, are, to say the least of them, but clumsy appurtenances to a walk, and they must be pretty numerous, otherwise the accumulation of water does all the mischief they are intended to remedy. Any plan, therefore, that would bind the walk together, so as to resist the flow of water, without, at the same time, rendering it unpleasant to walk upon, must be an acquisition, provided it be capable of general application. Now, the following, though possibly

nothing new, will effect this object:—Pound some good lime (not slack it,) and convey some of it to the damaged walks, then mix it with the gravel in something like the proportion of one part lime to four or five of gravel; a small quantity only ought to be mixed at a time with water and then laid on immediately, beating and smoothing accordingly; then another quantity, and so on, until the whole is done; the mass by this means becomes so consolidated that it is years before water can have any effect upon it. The process being in fact what builders call "cementing," and one which I certainly like better than asphalt, besides being so much cheaper; for in districts where lime is plentiful and good, it may be used less sparingly, but it is not an expensive affair at any time, and to those who have been suffering from the effects of thunder showers and other heavy rains I advise a trial of a little of it in the most exposed place, and I think I may warrant its answering.—*The Gardner's Chronicle*.

Importation of Alderney Cows.

MR. JOHN A. TAINTOR, of Hartford, Ct., received per ship *Helvetius*, which arrived at this port from Havre, the 29th November, two Alderney cows from the Isle of Jersey. They are four years old, and are considered the best of their kind. One is the first premium cow of the Isle of Jersey for the present year, and the other of last year. They cost about \$200 each, all expenses included, delivered at Hartford. Although the best of Alderneys are thin and angular in the body, nothing can be finer than their heads, horns, eyes, and limbs; and if they were bred for a round, fat carcass, they would then lose that quality which makes them so desirable, namely the production of milk as yellow and rich as ordinary cream.—*American Agriculturist*, N. Y.

The Family Sitting Room.

In a recent address before one of the county agricultural societies in Ohio, Prof. Fairchild, of Oberlin, argues the importance of comfortable and tasteful dwellings. He places the kitchen first, and claims that it should be furnished with all possible conveniences for making the necessary household labor easy, and then goes on to say:

Next in order comes the family sitting room—a place where you and the wife and children may enjoy each others' society and help each other in the right pursuits of life after the labors of the day are over. A home is not a home without such arrangements. To eat and sleep is not the chief end of man. Even in reference to the present world there are higher enjoyments of which we are capable, and nobler aspirations which claim our regard. There are social affection which, rightly cultivated, give us more elevated nature and wider range of enjoyment. It is for such a cultivation and for the attainment of such a happiness that "God hath set the solitary in families." But this object is, to a great extent, lost without arrangements corresponding to the end to be secured. There must be time and place for quiet and social intercourse—with books and periodicals and objects of taste at hand which shall aid in the development of the mind and the heart. The place for these associations is the family sitting room. It is in fact the centre of home, the point to which the wanderer looks back with longing heart when far from his father's house. You supply, then, a great family necessity, when you provide a comfortable, quiet, tasteful room, with suitable furniture, in all particulars inviting as a gathering place for your family at home.

Does any one object that such arrangements are too nice and fanciful for a farmer's house! that it is better to spend the evening before the old-fashioned kitchen fire, where apples can be pared, and hickory nuts cracked, and axe-helves whittled, without any fear of detriment to carpets and sofas. Allow me to suggest, my friend, that you are the very one that needs that sitting room, with its elevating and humanizing influences. Nuts and apples and axe-helves are all good in their place; but you and your children have hearts and minds as well as stomachs. Unbend your back a little, and look up to the blue heavens above you. The view shall kindle within you the latent spark of immortality. Look around upon the brutes that perish, and acknowledge that you are not like one of them. Drop your axe-helve, then, and devote the evening hour to your higher nature. The farmer who finds no use for a sitting room is not the man for Northern Ohio, in the latter half of the nineteenth century.

Berkshire Agricultural Society.

Our friend William H. Dillingham, of Philadelphia, has favored us with a perusal of a letter addressed to him in 1820 by Thomas Gold, one of the earlier presidents of the Berkshire Agricultural Society, founded in 1811, and generally called "the parent one." As societies are now springing up in all directions the information about the doings of this, which T. G. observes in one part of his letter, "was the first in the world which adopted a practical course for bringing into action the physical means and energies of the country and population," will, we think, be no less *curious* than interesting and useful. Many of the suggestions are well deserving of attention *now*, and indicate sound judgment and practical foresight.

The letter appears to have been in answer to an enquiry for information as to the best regulations for the Philadelphia Agricultural Society, probably then about being established. It says:

"It will always be important to success that you appoint men of good standing, of competent learning, much given to enquiry, reading and experiments. This will be all important at the outset, and they should be ready and alert in the discharge of every duty. Much must be written or collected, and dispersed among the members. There must be used means of extensive excitement. The business must be impressed as primary, the foundation of all other pursuits. Agriculturists must be taught to respect themselves and their employment. They are the real nobility of our republican country. At your meetings, and especially the anniversary, much must be done to explain and enforce the objects of the society. We occupy two days most industriously; the first in viewing the animals, the manufactures, specimens of agricultural products, mechanical inventions and improvements, agricultural implements, and the whole circle of the arts as presented. These objects engage the several committees, and they prepare reports for the second day. These reports are drawn up *accurately*, making a schedule for inserting each article, and adding such remarks as each committee think proper. The second day is that which usually attracts a more general attendance of people of fashion, ladies, &c. The occasion is interesting. The morning is usually opened with a salute of cannon and ringing of bells. The society assembles by 11 A. M., forms a procession, and invites to it all the people attending. Having a small uniform escort of about 30 or 40 men, with military and other music, we then move to some meeting house where the exercises of the day are commenced by prayer, preceded always by an ode or other composition suited to the occasion. Then the President, or some other person selected, addresses the society and audience. When this is closed another tune is sung. Then one of the Vice Presidents, after a short address, declares the premiums by reading each report. This ceremony is executed with much display, having marshals in uniform to deliver the premiums to the ladies. The men come forward and receive theirs. When these duties are closed, there is usually sung an ode or some suitable tune. The society and audience then form a procession, and move to some place where they dine. The close of

the day is usually spent in social and convivial engagements, in which is displayed all the good things, the fruits of agriculture in elegance and plenty, but no liquors or wine saving such as individuals specially order. The ladies are always honored of evening by a *grand show* in the ball room!"

These are curious reminiscences of the past. The singing part of the programme would be rather a novel feature in these days. The following adverts to a difficulty generally experienced *now*:

"The most important means of prosperity in these associations are *adequate funds*. In the early stages of our Society, we relied on subscriptions and private contributions. These were precarious. Three years ago our Legislature voted us \$200 a year for three years, and a few months ago they adopted a permanent system for the encouragement and support of such societies, by which each society may receive \$600 yearly, provided the members of the society or others will place out on a permanent footing, a sum that will also produce \$600 a year or any less sum. We have executed our part by procuring good notes, of say \$50 each, from responsible men, bearing an interest of six per cent payable yearly.

* * * * * The Massachusetts Society, though general and of long standing, never were able to extend themselves beyond theories. They therefore honored us with the appellation of Parent Society."

Good Farming in Delaware.

Daniel Cummins, Esq., near Smyrna, Delaware, has raised the past season, on two fields of his Font Hill farm, a crop of wheat averaging forty-two bushels to the acre, and weighing 61½ pounds to the bushel. Three or four bushels to the acre were supposed to have been lost by a severe southwesterly storm in May.

The first crop of wheat from these fields, three years ago, produced fifteen bushels to the acre. Six years ago ten bushels per acre would have been considered a good crop.

We should be pleased to hear from Mr. Cummins, the *process* by which he has brought his fields up to their present state of productiveness.

Anthony's Patent American Churn.

We observe, in our English Agricultural exchanges, a notice of this churn having been "*again*" awarded the premium of the Royal Agricultural Society at the last meeting at Gloucester. At the trial it made 4 lbs. 6 oz. of butter from four quarts of cream, while the best of the other churns tried made only 3¼ lbs. from the same quantity and quality. It says 2000 of them are sold there yearly.

Although a roundabout way of reaching the information, we confess our ignorance about a churn in this country under that name, and should be obliged by any of our readers informing us as to where it is made, and what are its peculiarities.

American implements appear to be taking the lead in England. Moffit's threshing machine in a recent trial appears to have surpassed all other horse power machines yet known there. It is the invention of John R. Moffit, Piqua, Ohio.

Chester County Pigs.

As our Chester county breed of pigs is becoming pretty widely known, and the past season have taken first premiums, not only at our own State Exhibition, but also in several States south of us, we give the following weights of some which have been recently slaughtered in this vicinity :

Bazel Graves, of West Chester, killed one a few days since, weighing 559 lbs., at 16 months old. On previous years he has fed them up to as high as 830 and 795 pounds each, at 22 months old.

Thomas Fitch, of East Bradford, a few miles west of West Chester, slaughtered one on the 2d ult., 16 months old, which weighed 675½ lbs.

William D. Haines, of West Goshen, slaughtered one on the 21st ult., 18 months old, and weighing 620 lbs.

If any of our readers have done as well or better than the above, we should like to record it.

B. Graves, in feeding his animals up to these extraordinary weights, informs us that he selected of our well known Chester county breed, when quite young, such as gave promise by their large bone of great growth, and during the fattening process made it a rule always to give a good feed about ten o'clock in the evening before bed-time. In long nights and cold weather he considered the fast from 6 in the evening till 6 next morning entirely too long. His practice in this particular is worthy of attention.

FARM ACCOUNTS.

There is one subject much neglected by farmers, and which in every pursuit is considered of the greatest importance, viz: the correct keeping of regular book entries, Dr. and Cr. accounts, so that a person may at once, by reference to them, understand the profits and condition of his farming operations.

Each field on the farm should be named or numbered, and an account opened with it in the day book, charging it with all expenses on each crop, and crediting it with all receipts, the difference showing the nett profit or loss as the case may be. In this way a farmer can tell at a glance which is his most profitable crop, and to which he should bestow his chief attention. By comparing these for a series of years, he forms reliable data for general management. A couple of dollars for a Day Book and Ledger, and a few minutes each evening, will be all the time and expense necessary. To these should also be added a book for a diary of each day's operations, what the hands were engaged at, lost time, &c., and general remarks as to any new process or change in the mode of performing work.

We have also found it convenient to have a small pass book to keep the mens' wages in and the amount paid them, which may be transferred to the day book once in two weeks or once a month. There is the same propriety in the farmer keeping his accounts accurately as the merchant, and when the habit is once formed, there is a real satisfaction in this daily inspection of the accounts and business of the farm, and a real advantage in thus keeping the mind posted up to its duties, and arranging, the evening before, the work to be done on the morrow.

A farmer should never be at a loss what to direct his

men to do next. No job of work should be allotted them without determining on the one to succeed it. We have known the hands on some places to lose several hours a day, in either seeking their employer for directions, or awaiting his return.

There is the same necessity for system, order, and judicious planning on the farm, as in the store or office, and success is as dependent on it in one case as in the other.

Since writing the above, we find the following account current with a field of corn and potatoes in the Ohio Farmer, and which we copy to give some idea of the plan we have suggested, and which should be carried out on every field :

Field No. 1—13 acres, planted in corn. A plain soil, rather sandy, one half acre waste land, one and one half acres in potatoes, the balance in corn.

1853.

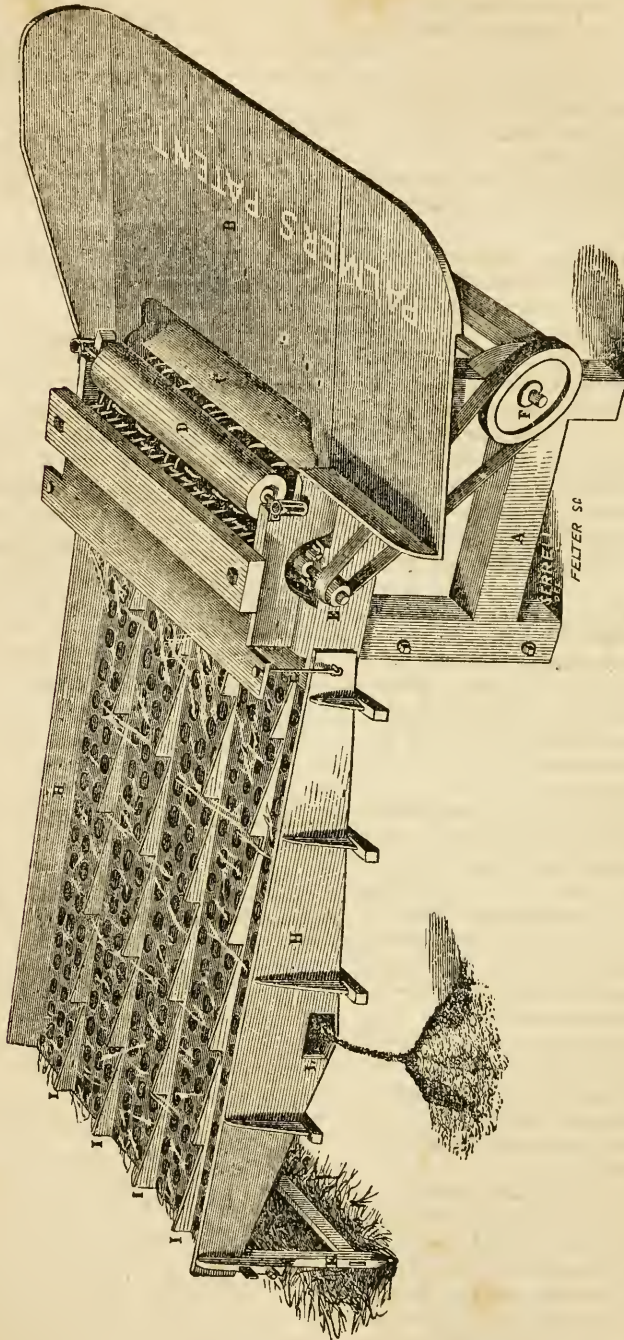
April 20.—To 10 days plowing, Dr.....	\$15,00
Harrowing and marking,.....	\$1,75
20 bushels seed potatoes,.....	8,00
24.—Planting seed potatoes, 3 days,.....	2,50
	12,25
May 14.—Harrowing and marking for corn,...	\$6,25
Seed, 2 bushels,.....	1,00
15.—Planting,.....	5,00
	12,25
June 9.—Plowing with cultivator, 5 days,.....	\$5,00
Attending,.....	2,43
	7,43
19.—Plowing with shovel plow, 5½ days,...	\$5,75
Hoeing and Plastering,.....	4,50
Plaster used, 374 lbs.....	2,34
	12,59
25.—Plowing, 3¼ days,.....	\$3,75
Attending, 5 days,.....	3,75
	7,50
Oct. 18.—Digging potatoes, 16 days,.....	\$12,00
Team, 3 days,.....	6,00
25.—Husking corn, 20 days,.....	22,50
Team, 7 days,.....	14,00
	54,50
Total expenses,.....	\$121,57
Cr. 240 bushels potatoes, at 31c.....	\$74,40
1000 bushels ears of corn, at 20c.....	200,00
	274,40
Nett profits,.....	\$152,83
Or \$11,75 per acre. Potatoes lost by the rot, at least 70 bushels.	

National Exhibition of Poultry.

Our friends in New York have lately organised a Poultry Society, and elected P. T. Barnum, President, A. B. Allen, Secretary, and R. B. Coleman, of the Astor House, Treasurer, and thirty-three Managers. They have concluded to have a grand poultry exhibition in New York city on the 13th of February next, continuing several days, which will include all kinds of fowls, and at which premiums will also be offered for the best specimens of rabbits, rat terrier dogs and deer.

It will immediately follow the State Poultry Exhibition at Albany, so that contributors can take their poultry to both exhibitions. Exhibitors are to be admitted free at all times, food and water provided by the society, and proper persons appointed to regularly feed and provide for them without inconvenience to the owner.

There is nothing like taking a wide swath in these matters. The term *national* sounds rather large, considering the short notice, and would seem to imply that it is to eclipse, not only all State exhibitions yet held,



PALMER'S IMPROVED SPIKE THRESHER.

but all of them together. If this turns out to be true, the name will then be appropriate. It was thought that the Philadelphia exhibition would be hard to beat. Barnum, however, is a great manager, and time will show what he can do.

The national exhibition of cattle is already advertised to take place in September at Springfield, and we shall probably have to record before long a national exhibition of pigs, sheep, &c. Young America is fairly in the field.

PALMER'S IMPROVED SPIKE THRESHER.

It is well known to all who are familiar with the ordinary Spike Threshing Machines, that their use is attended with much danger, and that frequently, serious and oftentimes fatal, accidents happen to those operating with them. Not a single season of harvest passes, but that our attention is arrested, from time to time, by the statement of their occurrence; and could a full and correct list be exhibited of all those who are each year severely injured and permanently maimed by accidents resulting from the use of the Common Spike Thresher, whether caused by the bursting of the cylinder or from the spikes being thrown out by centrifugal power, we believe the record would present such a startling and alarming picture, that few would have the courage longer to use a machine so dangerous. Fortunate, however, would it be for the agricultural world if their use was attended with only such accidents as are marked by severe injury or even by loss of limbs. But every harvest adds to the already large number who have fallen victims to their use, whose lives have been sacrificed by them.

In our own country their use, though constantly liable to be attended by such serious and fatal consequences, has been left free and unrestrained to all; but in Great Britain, (though we presume the fact may not be generally known to our readers), their use has been prohibited by two different Acts of Parliament, and for the single, but sufficient, reason that their use was attended with such a great liability to accident, so often terminating in loss of limb and life.

To guard against and prevent this liability to accident has been long a desideratum, but all efforts made to attain such an end have proved either wholly unavailing, or nearly so, until the inventions of Dr. Palmer were conceived and matured, whereby the agriculturist may now work his Spike Thresher, freed from the fear of serious injury or of sudden death.

The foregoing is a perspective view of a Spike Machine, with the before referred-to improvements.

The improvements by which these great ends are attained, are as simple in their nature as they are effective in their result. These improvements consist in a change in the construction of the feed-board and cylinder, and in the addition of a Protective Roller, placed between the operator and the cylinder.

In the lower part of the feed board an aperture or opening (C) is left, through which stones or any similar foreign substances, which may chance to be held in the straw, are discharged from, and are prevented from being carried into the machine; and from which result, in the ordinary Spike Threshers, not only injury to the machine, but oftentimes accident to the operator. This aperture is so contrived that while it allows all such

substances freely to pass out of the machine, the easy and rapid entrance of the grain into the thresher is not hindered or interfered with.

The Cylinder is secured against bursting by means of three strong iron bands encircling it at either end and in the middle, while the spikes are prevented from being thrown out by the centrifugal force, by being deeply inserted in the staves of the cylinder, and with a heavy, deep cut screw.

Directly in front of the cylinder, and just above the aperture left in the feed-board, is a Protective Roller (D), its gudgeons moving on helical springs allow the roller to be elevated so as to accommodate itself to the quantity of feed given, but not sufficiently stiff and rigid to counterbalance the natural weight of the roller. This roller, however, is so contrived that it can be elevated only to a certain distance, sufficiently to permit the free entrance of the grain, but, not so far as to allow the hand or limbs of the operator to be drawn into the machine. This roller is also of the further use to intercede any spikes or teeth, which may, by any possible accident become broken or thrown out, and prevent any accident resulting therefrom.

These improvements may also, at a small expense, be added to the ordinary Spike Threshers, and will be furnished to all those who holding such Threshers, desire to retain them, and wish to have their use made safe.

By means of these improvements all liability to accident is removed, while at the same time the machine, from having an increased number of teeth in the cylinder, will accomplish more work in a given time, and with greater perfection.

Supply of Guano on the Chincha Islands.

Admiral Moresby, of the British navy, has lately made a report to his government, containing important information as to the quantity of guano remaining on these Islands. It appears that from the principal island one-third is already removed, while of the first quality there remains about 3,500,000 tons, of the second 1,500,000 tons, and of inferior about 500,000 tons. On the centre island, there may be about 800,000 tons of first and 700,000 tons of second quality. The southern or smallest island has not yet been worked, but the guano is inferior and has no great depth. The whole quantity remaining is believed not to exceed 8,600,000 tons. Admiral Moresby states as the result of his data, in which he says he has confidence, that the islands will be exhausted of Guano in eight or nine years.

Hollow Horn Disease.

A writer in the Boston Cultivator gives the following as the symptoms of, and remedy for, the hollow horn disease: "The symptoms are dropping of the head and ears, lying down, turning the head over the back, towards the shoulders, as if pain in the head. This I think is a spinal disease, effecting the brains and horns. Cure—Take a large table spoonful of sulphur, and lard sufficient when warm to make it soft like paste, pour it on the top of the head at the root of the horns; take a shovel or flat piece of iron, heat it, and hold it over the head so as to heat the paste and warm the top of the head, as much as the beast will bear; repeat once in two

or three days, and bore the horns on the under side, two or three inches from the head, so as to let in fresh air, and let the putrid matter out if any is collected. I have never known this fail if taken before too far gone. I have cured one cow when the top of the head was so full of matter that I opened a place above the ear which discharged more than a half pint. This was in the summer, the cow was fattened in the fall and killed; the head was all right, excepting a place at the roots of the horns about as large as a small spoon bowl."

Agricultural School in Maryland.

A special meeting of the Maryland State Agricultural Society was held on the 13th of December, to take into consideration the proposition to establish an Agricultural School and Experimental Farm under the auspices of the Society. On motion of Mr. Key, the Secretary was directed to prepare a heading for the subscription lists, which was submitted to the society for its adoption, as follows:

"We, the subscribers, do agree and bind ourselves to pay the sum or sums of money set opposite our respective names, for the purpose of purchasing and establishing an Experimental Farm, within five miles of the city of Baltimore, to be conducted under the auspices of the Maryland State Agricultural Society, and to be used as a permanent show ground for the annual exhibitions of said society. One-third of the subscriptions will be paid in cash, and the balance at the option of the subscribers, in six, twelve and eighteen months."

On motion of the President, the officers of the society present were called on to pledge their respective counties to the raising of a certain fund to carry out the objects contemplated by the meeting. The invitation was responded to by several of the Vice Presidents present, one of whom pledged his county to raise \$2,000, others \$1,000 each, and others in proportion to their ratio of taxation, in comparison with those which had thus fixed the amount to be raised by them.

It would appear from the above that Pennsylvania will soon find in the States joining her, both on North and South, an Agricultural School of the kind which we as yet have been only talking about. At the period of our writing this, no action on the subject has yet been made in our State. For the credit of Pennsylvania, as well as for the positive benefit to result, we hope something definite may be concluded on the present winter.

PROTECTION TO FRUIT GROWERS.

PITTSBURGH, Dec. 5, 1853.

At the last meeting of the Allegheny County Agricultural Society, the undersigned were appointed a Committee to correspond with you and others, and ask your co-operation to procure at the coming session of the Legislature, an Act declaring the stealing of growing Fruit, Vegetables, Grain, &c., Larceny.

Believing the common law distinction between stealing from the ground or wagon and taking from the tree or vine, absurd, and productive both of injury to the agriculturist and evil to society, our Farmers and Fruit Growers urged on the Legislature last session to pass such a law for this county, but were met by the objection that it would not do to have a criminal law for one county different from that of the rest of the State.

Deeming such a law essentially necessary to protect the farmers and fruit growers of Pennsylvania, who have so much wealth and industry embarked in their vocations; and deeming the present trespass remedy entirely inadequate and useless—we respectfully and earnestly ask your co-operation, by the votes of your members at Harrisburg, and by petitions, if you think it advisable, to secure the passage of a simple law declaring the wrongful taking of Fruit, Vegetables, Grain, &c., whether attached to the ground or not, Larceny, and to be punished as such.

Then may we hope to keep pace with the horticulturists of our sister States, who are encouraged and protected by wholesome laws.

ROBERT M'KNIGHT,
J. S. NEGLEY,
JOHN YOUNG, Jr.

We fully approve of the above circular, which has been issued by the Allegheny County Agricultural Society for general circulation through the State. We hope it may receive attention in each county, and petitions be prepared for Legislative action the present winter. The want of some enactment of the kind indicated in the petition, is a very great discouragement to planting fruit trees, and while it in fact prevents the farmer from going into a most lucrative branch of his business, it also operates against the consumer by shortening the supply, and thus enhancing the price. We had the past season to bear the loss and disappointment of having nearly all our pears stolen from our dwarf trees, embracing a large variety, and which we had designed for exhibition. We were just a day too late. Being green and unripe, we had considered ourselves tolerably safe, but we suppose some other person found out that pears will ripen well in the house. As remarked in the circular, the distinction now made between taking from the ground or wagon and taking from the tree is *absurd*. The principle is precisely the same between stealing from your orchard and going into the house and stealing from the pantry. The latter to be sure is more difficult, and more liable to be discovered, but the *principle* is the same, and it surely will not be pretended by our legislators that the old Spartan law is correct, that the crime consists not in the *act*, but in the *detection*.

We have known cases in this county where orchards were visited by persons provided with three bushel bags, and who have carried off apples by the *quantity*, without leave or license, through the apple season.

We know it is objected to a law of the kind proposed that, in a plentiful season, fruit is often a mere drug, is fed to the pigs, and that from a large orchard a few apples or peaches would not be missed. This is nothing to the point and does not touch the *principle*. Laws must be framed on the broad foundations of justice and right, and be of *general* application. They must recognise and settle broad principles. A man worth a million of dollars would not *suffer* from the loss of \$5 or \$10, which might be abstracted from his pocket, and yet he is as much entitled to the protection of the law, and to the absolute ownership of the fractional parts of his fortune, as the man who is only worth one hundred. There is a proper way to do every thing. No farmer would hesitate to give of his abundance of fruit, when asked to do so, if he had it to spare. What we contend for is his *primary* claim of ownership, and his *right* to be asked, and to *dispense* his favors in such quantities as he chooses, and not to have his fruit filched from him with-

out his consent or knowledge.

The farmers and fruit growers pay their proportion, and a heavy one too, of the taxes and burdens of government, and they have a *right* to ask its protection in their business.

For the Farm Journal.

ASPARAGUS.

DEAR SIR:—It is a very long time since I promised you my mite of practical knowledge in aid of your valuable journal. That "strawberry question" has dragged me so often and so unwillingly before your readers, that I have had no opportunity heretofore of redeeming my promise. A temporary lull in the storm warns me to take the opportunity at once, as I observe that another thunder cloud is rising in the *west*, and it will, I am sure, be a miracle of mercy if I am not swept away by one of these floods some of these days. It is rather hard, however. No sooner does one quietly compose himself to rest, than the door bell rings, and "Monsieur Tonson comes again" in the pure style of Coleman the younger.

The best way to grow Asparagus is a "question" with the journals just now. I infer the subject interests. I beg to offer a sketch of my practice.

In the matter of *soil* I am not over particular. I only care to avoid extremes of wet or dry. The best is probably a light sandy loam in a cool situation, but *not wet*. A strong loam on a bed of brick clay is little inferior. Whatever soil be adopted, a foot in depth of half rotten stable manure should be laid on the surface, and the ground trenched up or loosened at least two feet deep, the manure being thoroughly mixed with it. Early in spring, having a stock of three or strong two year old plants at hand, prepare for planting by marking off for beds parallel lines of four feet, with two feet between each bed for alleys. In these beds set the plants nine inches from each other in two rows, commencing one foot from the edge of the bed, only just covering the roots with soil. This will give two feet between the rows in the beds, more than is usually allowed; but my object is to grow it *well*. After the planting is finished, lay a two inch covering of stable manure over the beds, and take the soil from the alleys three inches deep and throw over the manure.

I differ from most writers in the after treatment of my beds. I cut the second year from planting, but do not take off "all I can get till the middle of June, then leaving and encouraging all the rest to grow." I leave all I can spare of the *earliest shoots*; and, after it has been a month or so in season, cut off all that comes afterwards, provided I have enough shoots in that time to cover the bed without crowding. The shoots of this season have to form the buds of the next; the more time afforded them to grow, and the less they are crowded, the finer in proportion will the shoots from those eyes be. Attention to this will obviate the necessity of "plucking of flowers or young fruit as fast as they appear;" a recommendation which will probably share the fate of a similar one made to "pluck off potato blossoms" a few years ago. In the winter treatment of my beds I also have my own notions. As soon as the stalks are ripe they are cut off; the soil raked from over the roots

into the alleys till the crowns of the roots are nearly visible, when I place on the beds a layer of manure two inches in thickness, and the soil in the alleys is replaced over this in the spring. This I practice every season, and by it any one without any pretensions to chemical knowledge may have, in any common garden ground, asparagus in abundance, averaging each stalk $2\frac{1}{2}$ or 3 inches in circumference, which I think any reasonable man ought to be pleased with. Salt is an excellent manure for it in dry, sandy soils; others it renders wet, stiff, cold, and miserable, in which we might as well try to grow cantaloupes as asparagus. There are tons of salt thrown away every year on asparagus.

December 17th, 1853.

THOMAS MEEHAN.

For the Farm Journal.

"James Gowen's Address and Guenon's System."

MR. EDITOR:—In your last No. a correspondent who signs himself "Science," takes me to task for having placed Guenon's system in the category of "humbug," and propounds certain questions touching my knowledge of that system, which if I deem worthy of notice, it is because "The Philadelphia Society for Promoting Agriculture" is made to appear as voucher for the infallibility of Guenon's discovery—a circumstance much to be regretted I think, and one which I deprecated at the time the matter was broached. In order however to qualify the sponsorship assumed by the society, I may, without offence, it is to be hoped, explain the manner in which the Society's name got coupled with the pamphlet in question, and in so doing, I am constrained more by the desire to acquit the Society in general, as to the responsibility seemingly incurred, than to place myself in a proper position in regard to it. It happened thus—An elderly man, by the name of Nefflin, was seen on several occasions at the Society's room, soliciting some favor or attention on account of his knowledge of Guenon's discovery. He was present at the stated meeting in Dec. 1852; I was then President, and in the chair—before adjournment a motion was made for a committee to investigate Mr. Nefflin's version of "Guenon's theory."—I took occasion to express my disapprobation of the proceeding, alledging that the theory was sheer nonsense, and that such was the opinion of every man I had conversed with on the matter whose opinion on such a subject was worth regarding. I further said, that if blindfolded and afforded the opportunity to handle, I would undertake to select more of the good milkers out of a herd of cattle than one with eyes open, who professed a knowledge of Guenon's system could, if he should be restricted solely to the escutcheons or "mirrors." I felt reluctant to appoint a committee, but said that who ever chose to concern themselves in the matter might of course do so, on their own account. At this stage of the proceedings, several names were called out by the meeting, which as it appears, were taken down by the secretary. The next stated meeting was in January, when my term as President expired, the principal business before the meeting was the election of officers; pending the meeting it was stated by a member, that the committee on Guenon's system had prepared a report, when without the report having been read, a motion was made that the committee have authority to give such direction to the

report as it thought proper. The next thing I saw or heard of the report was, when it appeared in print, on the first page of the preface to "*Guenon's Discovery, Improved and simplified &c. &c., by John Nefflin.*" From this it may be perceived, that the action of the Society in this matter, if not irregular, was rather hasty and inconsiderate, and should be received as doubtful evidence in support of Guenon's theory; which, if erroneous, it is much to be regretted that "The Philadelphia Society for Promoting Agriculture" should have backed it so strongly, for as it is the province of the society to promote and establish correct principles, in view of advancing the interests of agriculture, its influence for good would be sensibly impaired when attempting to disseminate sound doctrines, should farmers have been misled by trusting to former opinions and recommendations, emanating from the same source.

Having thus premised, I proceed to answer the questions propounded to me by "Science." To the first, "whether I have ever studied Guenon's work and applied it enough to find its incorrectness?" I answer, that I have informed myself in regard to it, so far as reading what was published of the discovery a few years back, when my attention was first drawn to it, as well as by perusing the pamphlet now the subject of remark, and believe that I comprehend it fully,—further, that I have frequently taken occasion to prove its inapplicability. To the second "whether I have ever found a well marked cow that was not a good milker, and an inferior marked cow that was a good milker?" I answer, that if this question rested upon the points or marks established on correct principles, I seldom have found them at fault; but as it means the "mirror" marks, I say, that good, bad and indifferent marks may be found among well marked cows. To the third—"did I ever see a long scanty haired animal that was a good animal for milk or feeding properties?" I answer that if this question as to the state of the hair, referred to the hair on the entire hide of the animal, it would be an unfavorable sign of a good milker or feeder; but as it refers to the hair under the tail and inside the thighs, called the mirror, I say, that the length or scantiness of the hair in that direction only, would determine nothing as to the good or bad milking and feeding properties of the animal. These answers having been freely and frankly made, it is proper that they should be accompanied by some coincident remarks, tending to show, that no confidence should be put in the lines of hair their curves, disposition, quality &c., as tests, in the region comprising what is termed the escutcheons or "mirrors," and of course, whether these mirrors be perfect or imperfect they can have no bearing on, or relationship to, the good or bad milking properties of the cow. But first permit me to quote what is laid down in the pamphlet as the position and form of the "mirror"—the true reflector and indicator of the character of the animal. It reads—"The position of the milk mirror is bordered by a frame of hair which grows upwards, and of such as grows downwards; it begins in the middle between the four teats, ascending between the thighs towards the vulva and anus." So much for its position. Now follows a description of its form and quality, as constituting the most desirable mirror, classed No. 1., and is "lyre shaped." "The complete

mirror commences in the middle of the four teats of the udder, which is covered with a short fine down. It passes upwards over the whole back of the udder, occupies the inner and outward surface of the thighs and extends to a. a. (a certain distance on the escutcheon) thence it curves inwards, rises to the anus $1\frac{1}{2}$ to 2 inches wide on each side of the vulva a b. b. Above the teats at c. c. we find two ovals 2 inches in length by $1\frac{1}{2}$ inches in breadth, with hair growing downwards. The inner part of the thigh upwards towards the vulva, is of a yellowish color, with scattered black spots where we find the bran or dandruff." There are it appears, eight classes, the first as above, called the "lyre shaped," second, &c., "selvage shaped, fork shaped, club shaped, square shaped, wedge shaped, shield shaped." To trace the metes and bounds of these diagrams by the hairs which form their boundaries is no easy task even with the pamphlet in hand, without it and the pictures, it must be "sharp work for the eyes;" but feeling is called in to aid the exploration, as among the good qualities set down, "as good qualities in every breed and every class"—"yellowish hair in the mirror, from which on rubbing with the finger, a yellowish bran like dust or dandruff appears." No doubt, so far as the *bran or dandruff* is concerned, it will be found on every escutcheon of every breed, whether calf, heifer, cow, bull or steer,—nay, on horses, goats, sheep, swine, &c., &c.

Now let it be observed, that this narrow and obscure strip, beginning between the teats, ascending up to the root of the tail, formed mostly for the accommodation of the tail, and the tail formed to protect and hide the delicate and offensive parts named in the mirror, is held to be the tablet and only place, par excellence, on which the seekers after reliable information, can trace the good or bad properties of the cow; and this, too, without the least regard to physiological principles, as showing the affinity existing betwixt this strip and the lactescent organs of the animal, or the influence it exerts upon her secretions, as necessarily controlling her health, or promoting such condition as insures the property of deep and enduring milking, or otherwise indifferent or bad milking. This influence is not pretended to exist by the author of the "discovery." Then if it be not the cause, it is incumbent that it should be shown, that these marks are the signs or effects of the cause, impressed by the workings of the vital and producing machinery of the organs, which are made to reveal their capabilities on this table or index, called the "mirror." But it were impossible to establish either one or other of these principles. Why palmistry that affects to tell the fortunes of an individual by the lines on the palm of the hand, may claim as much consideration, as the telling the good or bad properties of the cow by the lines under her tail! The science of palmistry has the advantage, by being more decent by far, than the science, which may aptly be termed, "anusisry or anusism"—a new *ism* for the philosophers!

Is it not apparent to the most careless observer, that the hair is given to the cow, and all other animals, for a covering and defence against the weather—that it is apportioned in thickness and coarseness to places apporately in proportion to the exposure each part of the body has to undergo, from the muzzle to the tip of the tail; that the hair

is made to curve to suit the joints, and to curve and form lines outwards and inwards, &c., to carry off the rain and moisture from tender and delicate parts that require to be sheltered and kept dry. Even the disposition of the hairs near and around the two spots under the tail, named in the "discovery," though some of them point upwards, have undoubtedly their special uses in ministering to these private parts. That the hair on the strip downwards, under the tail, should be thin and otherwise affected by moisture and warmth of the tail, is a natural consequence of the covering and rubbing by the tail; that those on either side of the tail should curve on either side from the tail, is also natural and proper, for were they thick and coarse pointing inwards they would convey rain and moisture into the strip or space producing discomfort, and interfering with the stretching and creasing, which this part is subjected to while the animal is at rest or walking. The same remark will apply to the hairs inside the thighs on either side of the udder, which should be soft and modified to suit this locality; so of the creases and folds under and along the back of the udder, which open and close as the udder distends when filled and emptied, and, that the spaces between these folds must be obviously marked, especially on the bottom of the udder, "between the four teats," where the greatest distension takes place when the udder is full, and the largest folds occur when it is empty.

As to the variety that is perceptible in the form of these strips, called "mirrors," it is natural they should vary, as the size and symmetry of the animals themselves differ, but indicate nothing, not as much as to the property of the milking of the cows, as the shape and size of their udders, or even the thickness and fineness of their tails. Who has not seen hairless, ill shaped udders carried most awkwardly by great milkers, and well formed udders, with well put on teats, covered with fine soft hair, under bad milkers? Besides, there are many contingencies that may operate against the uniformity of "mirrors," traceable to causes different from constitutional defects, affecting the milking properties of those which have the misfortune to carry bad escutcheons; for instance, the breadth and narrowness of the tails, the setting of some in advance on the back, causing the whip part to fit closer in its place than those that start from the extreme end, which hang more perpendicular, and will make less of a mark or impression than the close fitting ones. Some tails are longer and more bushy than others; the heat, shade and friction of the long tails will cause the hairs on the back of the udders to exhibit a different appearance from those less covered and interfered with by the short tails. The restlessness of the tails in whipping off flies will also affect the lines of the hairs that mark the "mirrors;" to these may be added the stale and excremental discharges of the animals, which, if unhealthy, acrid or acid will scald the shut down to the back of the udder—the scouring, when a calf or heifer, will sometimes mark that part, "the mirror," so strangely that it would ever after defy the greatest adept in mirrorism to classify it. I shall mention but one other, cause, though I could suggest many more, of derangement that diversify or disfigure the posteriors of cattle, and that is their being permitted

to lay in their own filth until they are so encased in it that it sticks to them like barnacles to the bottom of a vessel, and when removed carries much of the hair with it, leaving bald places; the new growth of hair on the places thus denuded is likely to be irregular and different from the original hair, causing marks that will add to the variety of the "mirrors," embracing the system your correspondent, "Science," seems to appreciate so highly.

If I have failed to account for all the forms set forth in the system of mirrorism, it is because that my imagination has so little of the kaleidoscope cast in it, that it cannot conjure up at every turn shapes, lines and figures to dazzle and bewilder, and hence I cannot make the same thing appear in transition, now a lyre, then a fork, again a hill, a club, a shield, a wedge or selva, &c., like the philosophic Polonius, who fancied a thing to be "a weasel," and anon, "very like a whale!" But with all this defect, "I can tell a hawk from a handsaw when the wind is southerly;" and to prove my acumen I shall attempt to show how a good judge would proceed to find out the properties of a cow. The first part that would claim his attention would be the head, which from the muzzle to the horn is a study—the eye itself, in form and expression, will tell a tale of the utmost importance. If there be one spot above another in the cow entitled to be called the mirror, it is the eye, for it will reflect in a considerable degree what blood and properties she is endowed with. The neck, the shoulder, arm, brisket and chest will each be duly regarded, thence the ribs, back and loins, handling occasionally as he proceeds. He will then look at the depth of flank, and in that quarter note particularly the udder, its shape and flexibility, not forgetting the teats. The very last place a good judge will be found to look at the animal will be in her rear, when there he will take the line of her back, her frame and size, and will perhaps cast a glance at her tail as to how it sits and tapers, but he will never look under the tail, knowing there is nothing there but the two spots that were not placed there to be looked at, but to fulfil certain indispensable functions, in no wise relating to the milking properties of the animal.

I have tried, Mr. Editor, to treat this matter, to which I was somewhat rudely challenged by your correspondent "Science," in a manner as free from the ridicule it provoked as I possibly could, and with a view of making my remarks profitable to your readers. It is surprising at this day, such a system of tests as "Guenon's" should find favor with any of them. I have likewise to say that if time will permit I will respond to the strictures I also observed in your last edition on my remarks on the Alderneys. I have in addition a long score to settle in relation to lime. Very respectfully, yours,

JAMES GOWEN.

Mount Airy—Germantown, Jan. 11th, 1854.

OSIER WILLOW.

ORWIGSBURG, Dec. 18, 1853.

Editors of Farm Journal:—J. K. E.'s communication on the Osier Willow in the December number is of much interest, and it is hoped that he will next (as he promises) let us know the operation of cutting, peeling, &c.

At the same time I shall be under obligations to that gentlemen to receive some of the best varieties of willow

for the purpose of planting. I am under the impression that on moist patches of ground on some of our Pennsylvania farms, nothing more profitable could be raised with less trouble and expense. I am always ready to make experiments so far as my favorite branch of industry goes. If Mr. J. K. E. thinks proper to favor me he can send by means of the Philadelphia, Reading and Pottsville Railroad.

J. S. KELLER.

BOOK FARMING.

MR. EDITOR:—A strong prejudice exists in many parts of the country against agricultural publications, and their teachings are contemptuously styled "book farming." Some farmers are so wise in their own eyes, as to believe their system of culture perfect, inasmuch as it is hallowed by time, and the experience of their fathers, grand fathers and great grand fathers from the first settlement of the country. These refuse to read even the agricultural articles in their newspapers, considering it time thrown away.

I know whole neighborhoods in this county where improved stock—save horses—is unknown,—the hogs in highest repute are the slabsided, lop-eared, long legged, race horse breed, and cows are counted first-rate that will make five pounds of butter a week; where the old fashioned barshare plow, with its attendant heavy annual blacksmith's bill, is the only one in use; when the grain drill is looked upon as a yankee—or worse—invention; where reaping and mowing machines are regarded as chimerical attempts to compass an impossibility; where even the common scythe is not used, but the first sound that breaks upon the morning of June, are the mower's harvesters sharpening their German scythes, reminding one of the Roman harvesters two thousand years ago.

The people in these neighborhoods are industrious, they work hard, but seldom get rich. They have little or no labor saving machinery of modern invention, and as a consequence, the amount paid for labor swallows up most of their gains. They do not seem to know that cattle warmly housed, in winter, require much less food than when exposed to the weather. Large portions of their manure is suffered to be washed away, or evaporated. In a word, they are many years "behind the times;" and with their present notions and prejudices, they are likely to continue so.

Nor is this state of things confined to portions of this county. With some modifications, it will apply to districts of considerable extent, in most counties of this State; and wherever it does apply, I venture the assertion, that agricultural publications are comparatively unknown. After long and careful observation, I have been led to believe that, neighborhoods where these periodicals are common, are remarkable for the general spirit of improvement and determination to excel, which animates their inhabitants. The land produces better; and while the people do not work harder than in the places above alluded to, they make more money. This is a *general* benefit. I could give several instances of *special* advantage, that I have either known personally, or learned upon good authority; but rather than extend this communication to an unreadable length, I will append but two.

Last winter I prevailed upon a friend whose farm is poor, and indifferently cultivated, to subscribe for the

Farm Journal. Some time after he called on me to ask my opinion of the merits of guano! He stated that he saw it highly spoken of in the Journal, and that the field he intended to cultivate with corn was very poor, and he could not spare manure for it, as he would want all that for his wheat. I advised him to use it, but as his means were limited and he had but little confidence in its doing much good, he concluded to buy but five hundred pounds. This he put upon two acres of a ten acre field, and cultivated the whole field alike. I saw him recently, and he informed me that he thought the corn on the guano part would average forty bushels to the acre, while he would not get twenty bushels per acre from the remainder. Now the only additional labor expended on these two acres was the putting on the guano, which added to the cost, and trouble of getting it, would not amount to eighteen dollars. The increase on the two acres was forty bushels—worth thirty dollars—leaving a balance of twelve dollars clear money, on a single crop of two acres. Add to this the increased value of the land, and of the fodder, and, he has a very handsome return indeed for the money expended, the interest of which will more than pay his subscription to the Journal in all coming time.

The other case I will mention is that of a gentleman engaged in the milk business, who subscribed to the Journal out of compliment to his friend its then publisher, Col. Spangler, when that gentleman sold the establishment, he concluded, as his business was only keeping cows and selling the milk, it could be of little use to him, and that when the time paid for expired, he would stop it. In the mean time, however, an essay on abortion in cows appeared in the Farm Journal. The information derived from this essay, coming as it did very appropos, he considers saved the life of a valuable cow. He determined at once to continue his subscription.

Montgomery co., Jan. 1854.

W. P. H.

FATTENING POULTRY.

MR. EDITOR:—As Poultry management is now engaging considerable attention, and is a source of much profit if rightly attended to, I conclude to drop a few hints from my own experience to your valuable journal. It is by the collection in the Farm Journal of facts and experiments by Pennsylvania farmers, that it can be made available for the greatest amount of good.

There are two or three general rules in fattening all animals, and which apply to poultry as well as to other stock:

They must have an ample supply of food. They must be kept in comfortable quarters, where they will not suffer from cold and have to expend their food in sustaining the animal heat. They must have some variety in their food, and the *fattening* process after being once begun must be pushed forward as *rapidly* as possible, and finally they should be kept quiet and contented. With poultry I find apartments moderately dark promote this latter object. The house should front the south, with sash in front, which can be opened or darkened by shutters on the outside. These shutters between the intervals of feeding I keep closed, which promotes their quiet. After feeding at certain intervals during the day, they soon retire to their roosts and the digestive

process goes on more rapidly. It is a nice point which only close observation and attention can determine, how much and how often food should be given. It should not be allowed to accumulate, or it will become rancid and offensive and spoil the appetite. A half hour at feeding times, when the sashes may be raised to give them a little exercise in the yard in fine weather, or merely to open the shutters if the contrary, will give them ample time to eat, pick up gravel, &c., any food then left should be removed by drawing out the boxes containing it, and which can be done from the yard without disturbing the chickens. They should be made to face with the weather-boarding on the outside, and have a ring or loop to pull by.

I vary the food constantly, never giving the same twice successively. Small potatoes boiled, boiled oats and Indian meal, a piece of *cooked* meat suspended from the rafters always accessible, *milk to drink*, and water fresh every day, a heap of gravel, one of ashes, and some charcoal, are my means of making poultry ready for the market in two weeks from the time they are put up to fatten. If longer than this time is required there must be some mistake in the *management*. It should be recollected that the sooner meat is put on a fattening animal, whether a steer or chicken, the more tender it is. I place before my poultry all the materials for fattening themselves, tempt their appetites by giving them variety, and keep them *quiet and comfortable*, as I have alluded to. It is well known that the digestive process is sooner and easier finished during a state of rest. A chicken should have nothing to worry it, *no anxiety of mind*. Could they anticipate their latter end, and the reasons for our supplying them with the dainties of the land, they would be held very *uneasy*, and I make it a point to keep all such information from them.

My chickens in the Pittsburg market bear a *silent testimony* to the superiority of the above views, and are caught up rapidly by purchasers. As they are unable to make any noise about it themselves, please excuse your subscriber and constant reader for thus contributing his mite to the common stock. Your portraits of the thrifty and thriftless farmer in last number are considered the best things of the season, and are brought right home to some in these parts.

C. JACKSON.

Allegheny county, Pa.

For the Farm Journal.

Outside Painting.

People are not generally aware that paint exposed to the weather, is far more durable if applied late in the fall and during the winter, than at other times. Yet such is the fact. A coat of paint applied in the winter is at least equal to two put on in the summer. The reasons are, that the oil is thicker and a greater quantity is required to a given amount of paint; that it remains on the surface, forming a hard enamel—if I may use the term, instead of being quickly absorbed by wood, &c., made porous by the heat of the sun. To all who intend having the outside of their houses painted the ensuing season, I would say lose no time in having it done. You will not then have the mortification of seeing your paint washing off in a year or two by every rain, or soiling your clothes like whitewash when rubbed against.

The writer of this painted a house in December 1841, with three good coats of white lead. It has never been painted since, and at this time looks far better than one painted equally well in June, 1849.

S. P. R.

Cumberland co., Jan. 1854.

KEEPING POTATOES.

MR. EDITOR:—A short time back I dined with a friend, upon whose table I found some extraordinary good Irish potatoes. They were as fine as though they had just been taken from the row. Desiring to know how he kept them so fresh and fine, he informed me that immediately after digging he packed his potatoes in boxes sunk in the earth, and covered by a mound and some corn fodder to keep out the frost, and surrounded by a trench to draw off the water. His boxes usually contained three, four or five bushels, with a hole in them four or five inches square, on which he set a board chimney containing a flue about an inch square. This could be lifted out, and thus made an opening for the hand to reach in and take out the potatoes. Since adopting this plan, as he informed me, his potatoes kept unusually well, and were always fresh, totally unlike the wilted things kept in cellars and other places exposed to the air.

C. J. T.

We have arrived at the same result by keeping our potatoes in barrels in the cellar covered with a few sods—Ed.

Mercer County Agricultural Society.

MESSRS. EDITORS:—In answer to your inquiry about Mercer County Agricultural Society in the December No. of the Farm Journal, we held our second annual exhibition on the 19th and 20th of September (I send you pamphlet containing the very able address delivered before the Society at its annual meeting by Mr. James Gowen, Esq.) The society is in a very prosperous condition, it was estimated near ten thousand person attended the last exhibition. The different departments were generally very well represented. A considerable number of fine stock were on the ground, the Durhams being most numerous. Some fine horses were also exhibited, also quite a number of sheep, as this county does a considerable business in wool growing. There was also some good swine of the Berkshire and Byfield breeds. Mr. Fell exhibited a herd of Buffaloes, a Bull and Cow and two Heifers, that attracted considerable attention. The first premium on wheat, the yield was 49½ bushels to the acre for two acres. I will now give a statement of the condition of the society. They have leased 5 acres of ground for ten years, enclosed it with a close board fence erected sheds &c., the last year price of membership is \$1, that admits the person paying, and all his family free. All ladies are admitted free and the Editors, printers, and their families. The report of the society for the last year is this.

Receipts,	\$945.21.
Expenditures,	878.42.

The following officers were elected on the 15th of October, for the year 1854. *President*, J. A. Nelson, *Recording Secretary*, S. Henderson, *Corresponding Secretary*, A. G. Eberhart, *Treasurer*, J. M. Braden, *Librarian*, J. Dennison and one Vice President, in each township

of the county. I am now making up a club for the Farm Journal. You will find the money enclosed in this letter.

Yours respectfully,

Mercer co. Pa., Jan, 2, 1854. J. A. NELSON.

HOUSING STOCK.

MR. EDITOR:—Comparatively few farmers are aware how much more food cattle exposed to the weather at this season require, than when warmly housed or sheltered. At least such is the conclusion at which one naturally arrives on observing the little attention paid to the comfort of the "dry stock." Now it is a well ascertained fact, admitted by all who have tried the experiment, that the saving in food required by cattle well sheltered from the cold and wet, over those exposed to the elements, will considerably more than pay the interest on the cost of the shedding, where the stabling is insufficient. If, therefore, the sight of his shivering, shrunk cattle, wading through the mud, and striving for every little sheltered nook in the yard, should not touch the farmer's heart, let him observe the additional amount of food required to satisfy the hunger of these poor animals over those stabled, calculate the yearly loss from his cruel custom, and another year will not be likely to pass without amends being made. C.

Lancaster county, Jan., 1854.

WATERING CATTLE.

MR. EDITOR:—Among the many causes of stock not thriving as much as might be desirable during the winter, is their too scanty supply of water. A few have running water in their cattle yards, and their stock drink as nature requires it; but most farmers water their stock either by the pump, or by driving them to a running brook twice, or often but once, a day. Watering is done by *rule* from fall till spring, regardless of weather or food. I have sometimes observed stock so dry as to refuse to eat dry food, but after being watered they eat it voraciously. Now it is a well settled fact that no animal will thrive well while suffering for want of food, water or shelter. Let those, therefore, who want to turn out their stock in the spring in good condition, attend to these things, and let them see that the poorer and weaker stock get as much as they want.

York county, Pa., Jan., 1854. HENRY HUSS.

In addition to the remarks of our correspondent above, we say also let them have constant access to salt. They will then take it as nature prompts, and it will do them much more good than when given only at stated times. A lump of rock salt should always be kept in the barnyard. What would a man think of having a couple of handfulls of salt thrown down to him once a week. It would neither satisfy the natural appetite for it nor answer its true purpose, which is to be used with the food and promote health and digestion. We have known salt fed in this way to cattle to disorder the bowels.

Plaster and Ammonia.

It has been generally considered that Gypsum or plaster of Paris, when ground would absorb ammonia. The Editor of the Rural New Yorker however, denies this unless, "it be dissolved." The result of the following ex-

periment of Professor Campbell of North Carolina will go far in support of the popular belief, particularly as almost every farmer has in a greater or less degree found dry ground Plaster of Paris to be a most excellent and thorough absorbent of Ammonia.

"A barrel was filled with fresh scrapings from the stalls of horses. Over the manure, as thrown in, a little ground plaster was sprinkled from time to time. After the barrel had been compactly filled, it was allowed to stand some weeks until it had gone through the heating process which always takes place when newly collected manure is thrown into heaps. But during this heating or *fermentation* (as it may with propriety be called,) there was none of that 'vapor' or strong odor which ordinarily arises from fermenting manure heaps. When the mass had become cool, clean rain water was passed through it and collected at the bottom of the barrel. This water was found to contain one of the elements of plaster, and one of the volatile substances (carbonate of ammonia) above alluded to. On emptying the barrel, a white powder, looking very much like plaster, was found mingled with its contents. But when tested, this powder was found to contain only one of the elements of plaster, while it contained also one element of the volatile carbonate of ammonia just mentioned."

Cashmere Goats.

The Southern Agriculturist states that Dr. Davis, of Columbia, S. C., has a flock of Cashmere Goats, which he is breeding with the common goats. The writer says:

"It is from the pile of this goat that *all* the commercial 'camel's hair shawls' are manufactured; it being finer than the camel's turf, and superior to the Alpaca wool. These goats readily cross with the common goats of the country, and the fourth generation furnish wool equal to the full bred animals. The introduction of this animal is destined to be of great value to the South, and in time will fill our woods and mountain sides with flocks of hardy, fine, fleece-bearing animals, whose products, with that of Southern sheep, will eventually exceed many times in value all the products of a similar character now afforded by the flocks of the entire United States. The full bred rams of the Cashmere goats were sold at \$200 each."

Premium Crop.

We see it stated that the Committee on Crops of the Franklin County Agricultural Society have awarded the first premium (\$10) for the best crop of corn to Mr. Robert Wallace, of Green township, in that county. The amount farmed was five acres and eight perches, which yielded 466 bushels of shelled corn, or about 92½ bushels to the acre! This is an enormous yield, and Mr. Wallace does credit to the "Green Spot" in the way of farming.

Officers of the Erie County Agricultural Society.

President, William Colvin, Esq.; Vice Presidents, Wm. Forsyth, William Hastings, George Nealen; Recording Secretary, William Cattel; Corresponding Secretary, D. H. Wakefield, Esq.; Treasurer, David Deyarmon, Esq.; Managers, William Patterson, David Deyarmon, William Waggoner, William Miller, Uriah Hickenbotham, E. D. Stewart, W. D. Downs.

MEXICAN GUANO.

We have received from Messrs. S. & M. Pennock & Co., a sample of Mexican Guano they are now receiving and have for sale at their warehouse, in Wilmington, Del. Having no personal knowledge of the fertilizing properties of this Guano, we can only say, upon the testimony of others, that it was tried pretty extensively, last spring, in the neighborhood of Baltimore, and the results were highly favorable to its reputation.

The analysis of this Guano by Dr. Higgins, State Agricultural Chemist, Maryland, shows that it is very rich in Phosphate of Lime. He therefore recommends the mixing of it with Peruvian, in the proportion of two parts of Mexican to one of Peruvian, by which means a cheaper and more efficient manure is procured. The Peruvian Guano wanting Phosphate of Lime, and the Mexican wanting Ammonia, it is very evident that both must be materially improved by the admixture, whilst the cost is considerably reduced.

As the supply of Peruvian Guano for the coming spring trade is likely to prove *short* of the demand, we don't know that we can give our Delaware friends better advice than to call at the Messrs. Pennock's warehouse, and make a trial of the Mexican Guano side by side with the Peruvian, and report the result to the Farm Journal.

THE PECAN NUT.

The communication of "W. D.," in our last number, upon the cultivation of the Pecan Nut, has caused many of our readers to wonder why this desirable fruit has been so generally overlooked, as well by amateur cultivators as by those who have an eye, in such matters, to profit and usefulness. That the Pecan Nut *will* come to perfection in this latitude, we have ample evidence now before us in some full grown and perfect nuts from Moses Pennock, of East Marlborough, in this county. Our friend Pennock informs us that he planted a nut in his garden in the spring of 1833. The following spring he transplanted the young tree, then three inches high, with a root much longer than the stem. The first blossoms appeared in the spring of 1850; the following year it bloomed more freely, but no fruit till 1852, when the produce was about 20 nuts, none of which were perfect. The past season the tree yielded some 40 full grown and perfect nuts.

At this time the tree measures 34 inches in circumference at 6 inches above the ground, and is 29 feet high, which would indicate its growth to be quite as rapid as that of our native hickories.

As these nuts sell readily in our markets at four to five dollars per bushel, they are certainly worth attending to.

Cure for Crack in Horses' Hoofs.

Our friend, Martin Bell, Esq., of Blair county, sends us the following remedy for hoof crack:

"When the crack opens and makes the horse lame, take a piece of light hoop iron, six or seven inches long, and punch six or eight holes in it, so that three or four may come on each side of the crack, and fit it to the hoof as near the hair as the solid part of the hoof will permit. Have the opposite foot held up by an assistant, and fasten the plate to its place in a workmanlike manner, with good screws about three-sixteenths of an inch in length. The holes for the screws should be made in the hoof with a small sprigging awl. If properly done the horse can be either ridden or worked without limping. But to make the cure perfect, a sore must be made at the top of the hoof where the hair commences, which may be done with an inch chisel, guarded so as not to cut too deep. A little poke root or something

else should be inserted in the wound to make a sore and it is done. I have seen the plate remain on two or three months, and know from experience that it is much preferable to any other mode I have ever seen tried where the horse has to be used."

CORN AND COB MEAL.

In Chester county many farmers attach considerable value to the cobs of Indian corn for grinding with the grain, and feeding to cattle, but we observe in many places they are rejected as worthless, and used for kindling fires or thrown away to rot. We think, however, the use of them for feed is gaining ground, and, with the present prices of grain, it is of importance to have the question settled, what their real value is, if any. Prudent economy requires every source of profit to be made use of, and farmers are not the men to reject any if they know it. We shall be pleased to have any experiments in feeding corn cobs, from any of our readers, communicated for the Farm Journal. There are two ways in which corn cobs may be useful: first, directly, by any nutritive property they contain, and, secondly, in connection with corn, oats, or other concentrated food, by acting mechanically in producing the necessary distension of the stomach, and thus promoting easy digestion.

It should be recollected that food varies much in its nature, and performs different offices in the animal economy. Oil goes to form fat; starch, gum, sugar, to support animal heat and respiration; and the nitrogenous compounds, such as gluten, albumen, casein, to convey nourishment and furnish the materials of the living tissue. It must also contain of inorganic constituents, phosphate of lime to supply the material of the bones, and saline substances which abound in the blood and other fluids. In other words, the food must be of a mixed character, and no kind, however nutritive it may be in some respects, will give growth and vigor to the *whole* frame, if deficient in the above chemical ingredients. Starch and sugar will never be a substitute for gluten and albumen or the phosphates. In the beautiful economy of nature each performs its own office.

It is found that 1000 parts of ears of Indian corn, contains about 800 lbs. of grain and 200 lbs. of cob, and analysis has shown these 200 lbs. of cob to consist of 13½ lbs. of sugar and extract, 127½ lbs. of fibre, 45½ lbs. of matter separated from fibre by potash, 1½ lbs. of albumen, a small amount of casein, 2.31 lbs. of gum or dextrine, 1.8 lbs. of resin, and 7.4 lbs. of glutinous matter. The ash of 100 parts also yields a large per centage of potash, lime, 13 per cent. of phosphoric acid, some soda, carbonic and silicic acid, &c. It would thus appear that cobs contain very much the same elements of nutrition as grain, but in less quantity and not so concentrated. From their extreme lightness a large number would be required to convey any considerable amount of nutriment if fed alone, but apart from their mechanical action, analysis indicates too much value to permit them to be thrown away as worthless.

H. L. Ellsworth, formerly Commissioner of the Patent Office, made an experiment with cob meal alone, and says hogs will both live and thrive on it if well ground. He gives the opinion that 25 lbs. of corn meal, added to one hundred lbs. of cob meal, is more valuable for *growing* stock than seventy-five pounds of corn meal alone.

We have heard of other experiments where they have been fed to both cattle and horses with great advantage, not by themselves, but in connection with grain, ground corn and oats, to the great saving of the latter and also of hay. We have used corn and cob meal, ground fine, for horses, and kept them in much better condition than with either corn or oats by themselves.

WORK FOR THE MONTH.

FARM.—This may be called the last leisure month with the farmer, previous to commencing active operations out of doors. But little more can be said than to observe directions of last month. Have a full supply of wood, to last during the whole season, cut up and stored away, ready for use. Have all plows and other implements and tools examined and put in perfect order; also gears. Haul fencing materials where they are to be used. Make daily use of the card on all cows, calves, and fattening animals.

FRUIT ORCHARD.—Take off cuttings of gooseberries and currants, and bury them $\frac{2}{3}$ of their length in the earth, till wanted for planting out; also quince cuttings, grafts of apple, pear, plum, cherries, peaches, may now be taken and preserved in damp saw-dust, or earth till wanted. The two latter must be cut before any swelling of the buds has taken place. Grafting the cherry will not succeed unless performed very early. Budded peach trees which have missed may be successfully side-grafted if the buds have not swollen. Mulch, during this month of comparative leisure, all young fruit trees. Pruning may now be attended to. Head down all apple and other trees of worthless varieties which are for grafting and forming new tops. Leave some of the lower branches for removal another season. If limbs are too large for grafting, the young shoots which will be thrown out, may be budded the following fall, or reserved for grafting the following spring. Two seasons, at least, should be occupied in changing the heads of large trees. A pole pruning-saw, pole-chisel, and pole pruning-shears, are necessary to perform this operation thoroughly. Cut out all inside shoots and branches, which crowd the head, and are useless. Those limbs which have free access to sun and air are the fruit-bearing and productive ones. Branches should radiate from the trunk, something after the fashion of an umbrella. When large limbs are removed, coat the surface of the wound with shellac dissolved in alcohol, to about the consistency of paint. Go round every peach tree and shorten in the last year's growth about one-third, with the pole pruning-shears. This has been very fully proven to result in larger and finer fruit, and may be applied to other trees beside the peach. Apply the wash, before recommended, to trunk and large limbs. Grape vines should be pruned without delay. Trim gooseberries and currants, by cutting out old wood and branches near the ground, so as to give somewhat of the tree shape. Cut off at ground old raspberry wood of last year's bearing, and shorten in the new growth one-third. Leave only four or five stalks to each plant. Raspberries must be well manured to be productive, and moved to a new place at least once in five years. If frost should be out of ground by last of month, strawberry beds may be raked over, and short manure dug in between the rows. A good coat of ashes should be spread over the whole bed.

FLOWER GARDEN.—See directions for previous month.

VEGETABLE GARDEN.—Manures should now be composted and prepared for frames. Turn over occasionally to allow hot steam to pass off. From the middle to the last of this month, frames may be set up, and some cabbage, lettuce, radish, tomatoes, egg-plant and pepper-

seed sown for early planting. The two latter require rather more heat than the others, and should have a separate frame, and never allowed to become chilled. Select a sheltered place for hot beds on the south side of a building or tight fence.

After seed is sown constant attention is required. Cover with straw mats in nights and in cold weather, and give air occasionally on fine days.

Should it be necessary to let off steam, cover with something to keep out cold, and prevent a check to bed or plants. Radish and beet seed, early varieties, may be sown on a rich warm border, in open ground, for early use, as soon as frost is out of the ground. Cover with straw in severe weather.

By latter part of the month, extra early peas may be planted in rows for early crop, and also potatoes. Rhubarb may be forced by covering plants with a barrel, and filling up with manure. Continue to give air on fine days to plants of last year's sowing, in cold and forcing frames.

By last of the month, if weather is open, fork in manure on asparagus beds, and give a plentiful dressing of salt.

Annual Meeting of the Pennsylvania State Agricultural Society.

The annual meeting of the State Agricultural Society assembled in Harrisburg, agreeably to the requirements of its constitution on Tuesday, the 17th of January. The meeting was held in the Hall of the House of Representatives and was attended by a large number of the sterling yeomenry of the State. The utmost harmony and good feeling prevailed, and a strong determination manifested to make it in all respects worthy of the great interests it was intended to promote.

In the absence of the President, Judge Watts, A. R. McIlvaine, Esq., was called to the chair.

A committee consisting of Isaac G. McKinley, Algernon S. Roberts, and A. M. Spangler, Esqrs., were appointed to wait upon the Governor and the heads of departments to invite them to be present during the meeting.

H. N. McAllister, chairman of the committee on field crops, stated that he had presented the report of the committee to the Executive committee, and had been requested by that committee to read it to the meeting.

The report is as follows:

To the Executive Committee of the Pennsylvania State Agricultural Society:—

The Committee on Field Crops respectfully report that the following gentlemen were competitors:—

Hamilton Vankirk, of Washington county, Pa.; John McCord, of Bradford county, Pa.; George Walker, of Susquehanna county, Pa., and Benjamin Covert, of Fayette county, Pa., for the premiums on Corn.

Amos Stone, of Erie county, Pa., and John McCord, of Bradford county, Pa., for the premiums on Wheat.

And James Sampson, of Erie county, Pa., and John Ruthrauff, of Franklin county, Pa., for the premiums on Barley.

The several statements of these gentlemen of their modes of cultivation, with the accompanying certificates as to the product and measurement of the ground, are herewith presented and made part of this report. The Committee having experienced some difficulty and embarrassment in awarding and withholding premiums, deem it but just to the competitors, the society and themselves, that the evidence upon which they have decided should be made public.

The published regulations of the Society in reference to Field Crops are as follows :

"Competitors for premiums for the above agricultural productions must produce a full statement of the mode of cultivation, and accompany the same with a certificate of two respectable men as to the product and measurement of the ground, and also exhibit a sample of each crop at the annual meeting in Harrisburg on the third Tuesday of January next, when these premiums will be awarded."

Does this rule allow the ascertainment of the product by *estimation* from the measurement of a part or does it require the actual measurement of the whole? Samples are to be exhibited—certificates, &c., produced at the annual meeting in January, when the premiums are to be awarded. The crops are all gathered and housed, and the grains may all, without inconvenience, be thrashed before the time at which the certificates are required to be made. The best evidence which the nature of the case reasonably admits of should be produced. It seems, therefore, perfectly clear to the Committee that nothing less than actual measurement is a compliance with the rule, and that independent of the rule nothing less should be required. We are aware that a different construction obtained with the Committee on Field Crops a year ago, and this precedent created the only doubt which existed in the mind of any member of the Committee. A moment's reflection, however, brought them unanimously to the conclusion that it is better to disregard than to confirm a bad precedent, even though some of the exhibitors may have been misled thereby. It may be very inconvenient for the farmer to harvest, house, thresh and measure separately the exact quantity for which the premiums are awarded; but this is in no case necessary, as the Committee are of opinion that the actual measurement and ascertainment of the quantity upon a larger number of acres justly entitles the competitor to the premium on the smaller number, if his average per acre exceeds that of the competitor who produces evidence only of the product of the exact quantity. The product of twenty acres ascertained by actual measurement furnishes by average the strongest possible evidence of the product of any less quantity, whether that quantity be five acres or one acre. When, therefore, the exhibitor, to enable himself to compete the more successfully for the premiums, limits himself to the exact quantity, he should not complain of inconvenience to which the regulations of the Society do not necessarily subject him.

Mr. Vankirk claims to have produced the very extraordinary yield of 153½ bushels of shelled corn per acre upon five consecutive acres, amounting to 766½ bushels, and the claim rests upon the certificate of two gentlemen that they measured ½ of one acre, being a fair average of five acres in a field containing more than five acres, and that they "husked it and measured a portion of the same," and that this made a yield equal to 153½ bushels.

Mr. McCord having cut off his corn in a field containing 3¾ acres, the shocks numbered 394—each shock having been constituted of 36 hills, and two shocks having produced four bushels of corn, he *estimates* the whole quantity at 788 bushels of ears, and upon this estimate claims the premium for one acre. It is true Mr. Guyer certifies that he "measured all the corn raised on the 3¾ acres, and shelled it after drying six weeks in the crib, and the yield was 348¾ bushels, making 33 bushels to the acre"—but the rule is imperative in requiring the certificate of at least *two* respectable men.

Mr. Walker, however, measured and ascertained the product of the 1-160th part of *one* acre prior to the 24th day of September, and by estimation, claims the premium for having produced 155 bushels of shelled corn to the acre upon a field containing five acres.

If, in accordance with the rule prescribed, the *product* of *five* acres of corn cannot be ascertained by *estimation* from the measurement of the product of *four* acres, much less can it be ascertained by the measurement of the product of one-eighth of an acre;—72 hills on the one hundred and sixtieth part of one acre.

Benjamin Covert, of Fayette county, Pa., is therefore the only competitor, who seems to have complied at all with the rule prescribed. He claims to have produced 153 bushels and 7 quarts of shelled corn—pure yellow red cob gourd—upon one acre of land—and of this extraordinary product he produces the required proof by actual measurement. It would however have been much more satisfactory that the entire product had been shelled and measured as *shelled corn* and especially that the time at which the measurement was made had been specially stated.

It is to be presumed, however, that the measurement was made whilst the corn was comparatively green, and the committee cannot but express the opinion that had the product been suffered to dry, and been shelled and measured in the grain, its quantity would have been considerably reduced. The yield, however, would still have been highly creditable to the producer. The committee, therefore, take great pleasure in awarding to Benjamin Covert, of Fayette county, Pa., the premium of ten dollars.

The competitors for the premiums on wheat the committee are happy to report have complied fully with the regulations of the Society.

Mr. McCord seems to claim that his field, containing *seven acres and fifty two perches*, should be reduced to six on account of the *stumps* and *stones* with which the surface was partially covered, which is asking too much of a society whose object is to encourage the farmer to render every foot of ground productive. Taking the field, however, at seven acres and fifty-two perches—the product, 354 bushels, averages 50 bushels and 5 quarts to the acre by measure, to which adding four pounds per bushel, as per certificate, for overweight, and we have the surprising yield of 51½ bushels per acre. The committee, however, weighed the specimens furnished the society, and ascertained that by pouring the wheat from the bag into the half bushel cautiously, so as not to touch or shake it, except in applying the *straight edge* to the surface, the wheat weighed 62½ lbs. and that by shaking the half bushel, so as to settle the wheat thoroughly it weighed 66½ lbs.; measured the *ordinary way*, and especially upon a barn floor the committee are of opinion it would weigh sixty-four pounds.

The committee therefore award to James McCord, of Bradford county, Pa., the premium of twenty dollars for having produced an average of 51½ bushels of white blue stem wheat per acre upon a field containing seven acres and fifty-two perches.

They also award the premium of ten dollars to Amos Stone, of Erie county, Pa., for having produced 140 bushels of white wheat by weight on 3½ acres, being an average of 40 bushels per acre. The bushel on being tested by the committee was of the same weight as that of Mr. McCord.

The Committee award the premium of ten dollars to James Sampson, of Erie county, Pa., for having produced 334½ bushels of barley weighing 48 lbs., per bushel, upon a field containing seven acres and ninety-six perches, being a yield of 43½ bushels per acre.

The committee also award the premium of twenty dollars to John Ruthrauff of Franklin county, for having produced 322 bushels of barley weighing 48 lbs., upon 6 acres and 112 perches, making an average of 53 bushels per acre.

The Committee most respectfully recommend that hereafter the premiums on field crops be greatly enlarged. This

additional inducement would seem to be required to increase the number of exhibitors so as to afford a fair indication of the present capacity of the lands of the Commonwealth. But when we consider that the principal object of this Society is to increase that capacity—that this is the grand ultimate result at which we aim in offering premiums for numerous agricultural implements—for the best grains, seeds and vegetables, *et cetera*—it would seem but reasonable and just that we should offer such premiums for excellence in the crops themselves, as to insure at future exhibitions a competition worthy the vast resources of this great agricultural Commonwealth. The mechanic, the machinist, the producer of stock, the grower of fruits, and numerous other exhibitors, are compensated by the increased demand which the premium has created for his implement, machinery, stock, fruit trees, and other articles, whilst the competitor in "Field Crops" receives no pecuniary return for his time and care in measuring his ground, and in preparing and furnishing evidence of its actual product, presenting specimens, &c., except what he receives in the premium itself. We desire to increase competition, and as the chances of remuneration in the premiums are diminished in proportion as competition is increased, the premiums offered should greatly exceed mere remuneration, else they will fail to accomplish the end for which they are offered.

All of which is respectfully submitted.

H. N. McALLISTER, }
DAVID MUMMA, } Committee.
ROBERT BRYSON, }

The report was adopted unanimously and ordered to be printed, together with evidence upon which it was based, with the proceedings of the society.

The Treasurer, George H. Bucher, Esq., made a report of the financial condition of the Society, showing the receipts and expenditures of the past year, which was also unanimously adopted. From this report it appears the Society has invested and in the Treasury the sum of \$13,088 84.

On motion of I. G. McKinley, the society proceeded to elect officers for the ensuing year. The following were unanimously chosen:

PRESIDENT: Frederick Watts.

VICE PRESIDENTS: 1st district, Isaac B. Baxter, 2d. Jos. R. Ingersoll, 3d. James Gowen, 4th. Algernon S. Roberts, 5th. Robert T. Potts, 6th. Abraham R. McIlvaine, 7th. Wm. Stavely, 8th. James Everhart, 9th. John Strohm, 10th. John P. Rutherford, 11th. Amos Kapp, 12th. George W. Woodward, 13th. Augustus Lukenbaugh, 14th. William Jessup, 15th. H. N. McAllister, 16th. Jacob S. Haldeman, 17th. William Hieser, 18th. John S. Isett, 19th. John McFarland, 20th. John H. Ewing, 21st. John Murdock, 22d. William Martin, Sr., 23d. William Wuagh, 24th. William Bigler, 25th. James Miles.

Additional members of the executive committee.

John S. Evans, A. O. Heister, Isaac G. McKinley, Wm. Bell, Simon Cameron.

Corresponding Secretary.—A. L. Elwyn.

Chemist and Geologist.—S. S. Haldeman.

Librarian.—David Mumma.

On motion resolved, as the opinion of the Pennsylvania State Agricultural Society, that the establishment, on a liberal scale, of an institution with a model farm attached, where the principles of a scientific cultivation of the soil, and manual labor in that pursuit, should be joined by the usual academic studies, would rank with the greatest benefits to the agricultural interests of the commonwealth.

Resolved, That this Society highly approve of the recommendations of the Governor of the State, on the subject of such an institution, and earnestly urge upon the Legislature

the importance of making provision by law at as early a day as possible, for the establishment of the "Farmers High School of Pennsylvania."

The thanks of the meeting were unanimously tendered to the House of Representatives for the use of the Hall, and to the chairman of the meeting.

Transactions of the Middlesex County Agricultural Society.

We are indebted to Simon Brown, editor of the *New England Farmer*, for a pamphlet copy of the above for 1852, handsomely printed and containing much valuable matter, and reports relating to every department of farm business, stock, cultivation, field crops, fruit, root culture, &c., together with a list of the successful competitors for premiums at the exhibition held at Concord (we presume a state one), and also an excellent address by Luther V. Bell. We extract from among the reports two, on the cultivation of cranberries and carrots. The Middlesex Society appears to have been incorporated in 1803, and the *fifty-eighth annual festival* was held in Concord, Oct. 6th, 1852.

This seems to conflict with the statement by Thomas Gold to our friend W. H. Dillingham, of Philadelphia, in another part of our Journal, that the Berkshire Society had the priority. He was one of its earlier Presidents, and we presume meant that if not first in point of time, "it took precedence from its greater activity and energy, and was acknowledged for this cause as the "parent one." "The Massachusetts Society," he observes, "though of long standing, never were able to extend themselves beyond theories; they therefore honored us with the appellation of Parent Society. During the period I was at its head, we furnished plans and instructions for numerous associations not only in New England, but in New York, Connecticut, North and South Carolina and Virginia."

The *New England Farmer* pays the following deserved compliment to our artist, EDWARD CLARKSON, for his two admirable engravings—the thrifty and thriftless farmer—in our last number:

A GOOD HIT.

The *Pennsylvania Farm Journal*, published at West Chester, gives an excellent contrast between the thrifty and thriftless farmer, in two engravings, opposite each other. The picture on the left shows the nice and convenient farm buildings, tastefully set off with shrubbery, shade trees, fine fences, good gardens and roads, and all enlivened by the most active industry of men and teams in the field. On the right, not a shrub or shade tree is to be seen near the buildings. The roof of the barn is in waves, like a troubled sea; the weathercock is keeled over, while the doors look as though they had just come out of a dreadful spree and didn't know which way to lean. Broken slabs, old wheels, tin pots and cast off boots and used up crockery, are scattered in the door-yard. Emaciated cows are mumbling away at the hay stacks, while lank and haggard oxen are drinking at a trough at the end of the house farthest from the barn, and lean horses are collecting the scattered blades of grass on the dreary looking pasture in the rear. The sheep, with their backs all humped up, might stand "all fours" in a two quart measure. The foreground is embellished with the skeletons of dead cows, pigs and poultry. The hogs have just broken through the rickety fence, which Tom is patching up, while Sam, club in hand, hangs on to the tail of a long-nosed, lop-eared race-hog, which he is belaboring with unmerciful blows. The bull-dog, Grip, has another by the ear, whose direful squallings set the hens, turkeys and geese into a perfect flutter.

To complete the picture, the lout-proprietor sits in the piazza, perched on the hind legs of his chair, contemplating the scene before him, and complacently listening to the rebukes of a woman who has popped her head out of a broken window, just in time to see the hogs destroy what few garden vegetables were left from former depredations.

Your hit, Mr. *Journal*, is admirable—it is decidedly historical, too. So were Hogarth's pictures, and told their story to the public with as much directness and force as Junius or the Dunciad, and were felt as keenly as any of the stinging sarcasms of either.

Hogarth would have found plenty of subject matter in your picture on the right for one step in the Rake's Progress. Pass it along.

Berks County Agricultural Society.

The annual meeting of the Berks Co. Agricultural Society was held in Reading on the 10th ult., when the following officers for the ensuing year were unanimously elected:

PRESIDENT, George M. Keim; VICE PRESIDENTS, Daniel Wenrich and Ezra Griesemer; CORRESPONDING SECRETARY, A. F. Boas, RECORDING SECRETARY, R. F. Brown.

EXECUTIVE COMMITTEE, Amity, George T. Leonard; Alsace, John Endlich; Bethel, Henry Shubert; Bern, Benj. Parvin; Upper Bern, B. Nunmacher; Bernville, —; Brecknock, —; Carnarvon, Davis Smith; Cumru, Joseph Hemmig; Colebrookdale, Dr. C. Keely; Centre, George E. Adams; Douglass, Charles Haggy; Earl, —; Exeter, D. Schneider, Sr., Hamburg, —; Greenwich, —; Hereford, Joel Y. Shelly; Heidleburg, John Sheibert; Lower Heidleberg, D. Books; North Heidleburg, B. Lamm; Kutztown, W. Heidenreich; Maiden creek, T. Pearson; Marion, Wm. Taylor; Maxatawny, Daniel Kohler; Muhlenberg, J. E. Deninger; Oley, Dr. P. G. Bertolette; Ontelaunee, J. H. Geruant; Perry, Benjamin Gordan; Penn, John B. Reher; Pike, David Lobach; Richmond, J. G. Kauffman; Robeson, Edward Brooke; Rockland, Nicholas Hunter; Rusco'anor, Wm. D. Haines; Reading, N. W. W., Dr. J. Hiester; Reading, N. E. W., J. Henry; S. E. W., W. Graff; S. W. W., Wm. H. Keim; Sprue W., George R. Frill; Spring, Isaac Adams; Tulpehocken, W. Shaffner; Upper Tulpehocken, M. Miller; Jefferson, Paul Wenrick; Union, Maj. H. S. Kupp; Washington, J. Stauffer; Windsor, —; Womelsdorf, Dr. W. Moore.

Agricultural and Horticultural Society of Monongahela Valley.

Our friend Wm. Wickersham writes us that an Agricultural and Horticultural Society has been formed for the valley of the Monongahela, from parts of Allegheny, Fayette, Washington and Westmoreland counties. The meetings are held at Monongahela City, and the society bids fair to prosper. Those of our readers who know anything of the valley of this noble stream know that its bottoms are among the very richest in the country. The hills bordering it are high and abrupt, containing inexhaustible quantities of bituminous coal and limestone. The soil on the hills is of an excellent quality and is generally pretty much cultivated. The bottoms are far richer. What will our readers think when we tell them that corn has been grown on portions of these bottoms yearly for more than half a century, without apparently diminishing their wonderful fertility, and that too without the hand of man applying a spadeful of manure! Yet such is the fact.

We shall be glad to hear from the officers of the society.

Allegheny County Agricultural Society.

At the annual meeting of this Society held at Pittsburg on the 4th ult., the following officers were elected for the present year:

PRESIDENT—W. M. Martin, Sr.; VICE PRESIDENT—P. A. Way, Esq.; CORRESPONDING SECRETARY—Jas. S. Negly.—RECORDING SECRETARY AND TREASURER—A. B. McQuewan.

MANAGERS—Mansfield Brown, John Young, Benj. Kelley, J. M. K. Snodgrass, Robert McKnight, Jas. Wardrop, J. Kennedy, John S. Hall, G. W. G. Payne, John Murdock, jr., John McKelvey, Alex. Speer.

Officers of Fayette County Agricultural Society.

PRESIDENT.—William Colvin, Esq.; VICE PRES'TS.—William Hastings, George Nealen; RECORDING SECRETARY.—William Cattel; CORRESPONDING SECRETARY.—D. H. Wakefield, Esq.; Treasurer—David Dugarmon, Esq.; MANAGERS. William Patterson, David Dugarman, William Waggoner, William Miller, Uriah Hickenbotham, E. D. Stewart, W. B. Downs.

For the Farm Journal.

Velocity of Hammering.

MR. EDITOR:—Many of your readers no doubt are in the daily practice of using the *hammer*; perhaps few of them have troubled themselves to ascertain the *velocity* with which they are able to strike any material with the hammer. From experiments made with hammers of various weights, I have found the velocity not to exceed above 60 feet per second; and that a velocity between fifteen and thirty feet per second may, without much error, be considered the usual velocity.

J. S. G.

Media, Pa., January, 1854.

A Query for the Farm Journal.

Suppose B, a farmer, when about to clean up his wheat, should take a sample to C, who may be a miller or the superintendent of a large school, and enquire if he wishes to buy. C queries of him how much he expects to have? to which the farmer replies, that he thinks he will have 500 or 600 bushels. If that is all, answers C, I will take it, and if it should be as good as the sample I will allow thee the fair market price. But supposing the wheat is not ready for delivery short of 5 or 6 weeks from the time the agreement was made, and in the mean time the price has changed to 50 cents more or less than was the price at the time of agreement. Will the editor of the Farm Journal, or some of his correspondents, please inform us which is to govern in this case, the price at the time of delivery or the price at the time of the agreement?

I would not ask the above question if I did not know that there was a difference of views on the subject, and also that an open door had there been left for serious misunderstanding, and as it is the proper office of the peace makers to prevent as well as to heal difficulties, a right solution of the question may do some good.

We all know that the best way would be to guard against any difficulty by having a clear understanding at first; but this is sometimes overlooked.

Lycoming County.

We are happy to learn from our friend W. P. J. Painter, Esq., that the preliminary steps have been taken to form an Agricultural and Horticultural Society in Ly-

coming county; a constitution having been adopted, and a committee appointed to select officers for a permanent organization, to report in Williamsport at the next meeting on the first Monday in February inst.

With the incentives to excel, created by competing exhibitions, and the general influence of such an organization, Lycoming will advance hand-in-hand with her sister counties in the race for agricultural and horticultural improvement. Our friends there have our best wishes for their success.

PROFITS OF FARMING.

COLUMBIA, Pa., Jan. 17th, 1854.

J. L. DARLINGTON:—In the January number of "Farm Journal," page 12, you publish a "report of the Committee on Pairies of the Chester County Agricultural Society." The Committee say, "they could not with justice close their report without giving some of the details of the management of the dairies examined." Now I think you will agree with me, Mr. Editor, that it is much to be regretted that the Committee did not give *all* the details, or at least so far as to give your readers an opportunity of making their own calculations in regard to "profit and loss"—for after all, this is the main thing worth knowing, supposing any one should wish to embark in the same business.

The report says, "the amount of sales of the Messrs. Dickey was \$2138 39, expenses \$287 70—leaving a balance of \$1850 69!!" From a superficial examination the reader might be led to believe that this balance was all profits! Had the Committee included in their report the feed consumed by these 40 head of cows—the salaries paid for help—to feed, to milk, to tend—the wear and tear of fixtures, utensils—the depreciation of the value of the cows from sickness, old age and death, &c.,—I apprehend the *balance* would have been materially reduced.

Such imperfect statements are calculated to mislead, and are of no manner of use to the public—merely filling up the pages of the Journal to the exclusion of more valuable matter. How many statements, similar to the above, do we see published time and again in the many agricultural journals—on the different branches of agriculture—by committees as well as individuals? Some theorists in their closets will take hold of these statements, examine, transcribe and compare with other pursuits, and with a little coloring of their own, give a picture of a farmer's life—greatly in favor of the latter—making it appear (on paper) that the farmer's business was all profits and no loss!

We occasionally see a person of this order leaving the towns or cities, where he has become heartily tired of realizing his 10 or 12 per cent, and going into the country to become a farmer. Here he intends "to sit under his own vine and fig tree," and expects here, at least, "there will be none to make him afraid," (discount day may probably not annoy him quite so frequently in the country as in the city,) his calculations and prospects based on the great profits of farming, which he has noticed in the agricultural publications. Without knowing the drawbacks, the expenses, the failures, the short crops, and the many other casualties incident to, or bearing on, the profit of a tiller of the soil, and instead of making his 10 or 12 per cent. without risk or trouble, generally finds himself, as the saying is, "coming out at the little end of the horn" at the end of the year, heartily tired of the labor, the drudgery and slavery of a farmer's life.

Now if such statements as have been the occasion of calling forth these remarks would give *all* the items bearing on the subject, such disappointments need not so often occur, and the farmers would be relieved from, at least in part, the many observations by men in other pursuits, that "the

farmer is the only independent member of society," that "the grass grows while he sleeps," that "his income is all clear profit." &c., &c.

And "hereby hangs a tale" from which we might fill another half sheet, but it is not our purpose to dilate on this subject at present further than to say, that provided, as our law makers have it, the State needs more funds for ordinary and extraordinary expenses, these statements of great profits are a strong inducement for the "powers that be" to amplify the wealth, the prosperity and remunerative investments of our rural population, and our prosperous farmers can bear a trifle more depletion for the benefit of the Commonwealth.

J. B. G.

For the Farm Journal.

Mapes' Superphosphate of Lime.

MR. EDITOR:—As you solicit facts and experiments from any of your readers in farming operations, I am willing to throw in my mite to the general good, by stating that in the spring of 1853, I sold to Jesse C. Green, of this place, two acres of land, situate on New street, north of the Borough of West Chester. Part of it was a fresh clover sod, for which he purchased of Paschall Morris & Co., Professor Mapes' Superphosphate of Lime, and applied at the rate of 300 lbs. to the acre. So astonishing was the result, that in three weeks time you could see the difference between it and the adjoining portion, precisely of the same character, at the distance of a mile, and at mowing time it produced double the quantity of hay. Yours respectfully,

West Chester, Jan., 1854.

ENOS SMEDLEY.

For the Farm Journal.

Osage Orange Hedge.

MR. EDITOR:—As the subject of fencing is claiming much attention among the farmers of Pennsylvania, I thought a few remarks on hedging might not be out of place. When we consider the growing scarcity of timber and the high price of rails, commanding even now in many places, particularly near our borough, from six to ten dollars per hundred, induces the enquiry what shall be found and used as a substitute?

It is found that the Washington or Virginia thorn does not now suit our climate, and in spite of the cutting and twisting which it had to be subject to; on account of its branching so sparsely at the bottom, there always would remain holes sufficiently large for the egress of hogs, lambs and poultry, &c. In my opinion we have found that substitute in the Osage Orange plant. A hedge of these if rightly managed, in three or four years, will make a fence impenetrable against all kinds of stock. Some of our farmers have procured the seed to plant, but in consequence of being boiled by unprincipled vendors to get the seed out more readily they did not germinate.

The better way is to procure the plants, which can be had at almost any of our nurseries, you then save at least two years, which in a fast growing fence is quite an object. If the farmer is at first doubtful of its efficiency let him procure two or three thousand plants, and put these out for a trial; and my opinion is, that he will be so far satisfied with the experiment, as to replace his rail fence (though good) with hedges as soon as he can.

The preparation of the ground can be carried on any time through the winter, when the weather will admit of its being dug; cover the space where you wish to plant the hedge, say three or four feet wide, well with short manure or compost, then dig it up as deeply as the spade will permit breaking the clods and making it quite mellow, when the time arrives for planting which will be about the first of April, stretch a line of convenient length and dig out the trench

close to the line, then put in the plants one foot apart, follow on in this way until the entire row is completed; then remove the line six or eight inches from the former row, proceed as before, putting the plants also a foot apart; observing to put the plants in this row opposite the intervening space in the other. When the plants are set out, they must be cut down to within three or four inches of the ground, and the second year six to nine inches higher up. Keep the ground well worked and clear of weeds and grass.

Should these rough notes prove acceptable I may treat on its after management. J. B. GRAY.

The following seasonable remarks from an esteemed correspondent will meet with a hearty response from the fair readers of the Journal. In case it should be overlooked by the male part of the family, we advise the ladies to read it to them:

SHEEP SKIN MATS

Are prepared by taking a fresh skin, stretch it (wool side down) on a board, tacking it carefully round the edges, then take equal parts of fine salt and alum, powdered and thoroughly mixed—rub the skin three times well with the powder, leaving 12 hours or more between each time—keep it out of the sun, but in the air.

While on the subject of mats allow me to remark there are few farmers who do not feel a decided choice in having clean houses, yards, &c.; and also in having the women about them, especially their wives and their daughters, nice and cleanly in their persons and habits; but if they expect to be gratified in this respect they must be willing to do their parts. They must have a proper care to keep plenty of good scrapers and mats about all their outside doors, brick, stone or board walks leading to the barn and out houses, and to avoid the habit of entering the house at any time with dirty shoes; also whittling or spitting upon the floor and against the walls. Such care should be observed, not only for present comfort, but as a most commendable habit to be transmitted to children and grand children in future generations.

There is not enough of tender regard to the feelings of our wives and daughters on these accounts. In travelling recently to the west, while sitting in the large bar room at Crestline, I observed a man standing in the outdoor and leaning with his back against the door frame. When he had occasion to spit, instead of turning his head and spitting out at the door, he turned it the other way and spit upon the floor. Such was the force of habit that he appeared not fully to relish his tobacco unless he spit on the floor.

The comfort and happiness, and the affection, too, of rural life, is much promoted by care in very little things. A friend of mine, who, in the summer season, was in the habit of sitting near his window to shave, when he was done would throw his shaving paper into the yard. He observed his affectionate and dutiful daughter was tried with this, and without complaining would carefully gather them up and remove them. He had too much regard for his daughter to suffer this to continue, and as it was some distance to the kitchen fire, he fell upon the plan of putting his paper back into the cup, so that the servant, when she brought him hot water the following morning or at a future time, could throw the paper into the fire. This may seem a small matter to mention, but

it is chiefly intended to show in what very small matters a thoughtful man may spare the feelings, and lessen the toil, and strengthen the attachment of wife and children. There is every probability that if a family of daughters are obliged to submit to slovenly habits during their minority, that they will never acquire those feelings in relation to cleanliness so becoming to their sex, and so admired by all refined society. With these remarks, therefore, I would respectfully encourage our farmers, especially, to provide for the comfort and relief of their wives and daughters, an ample supply of good scrapers and mats at all their out doors, and to require of all the family to use them before they enter, and they will find it not long before the habit of cleaning and scraping will become so fixed, that the scrapers and mats will be used whether needed or not.

I presume there is no mat so cheap for the farmer, considering its durability, as a good lamb skin.

* * *

Taste of Turnips in Butter.

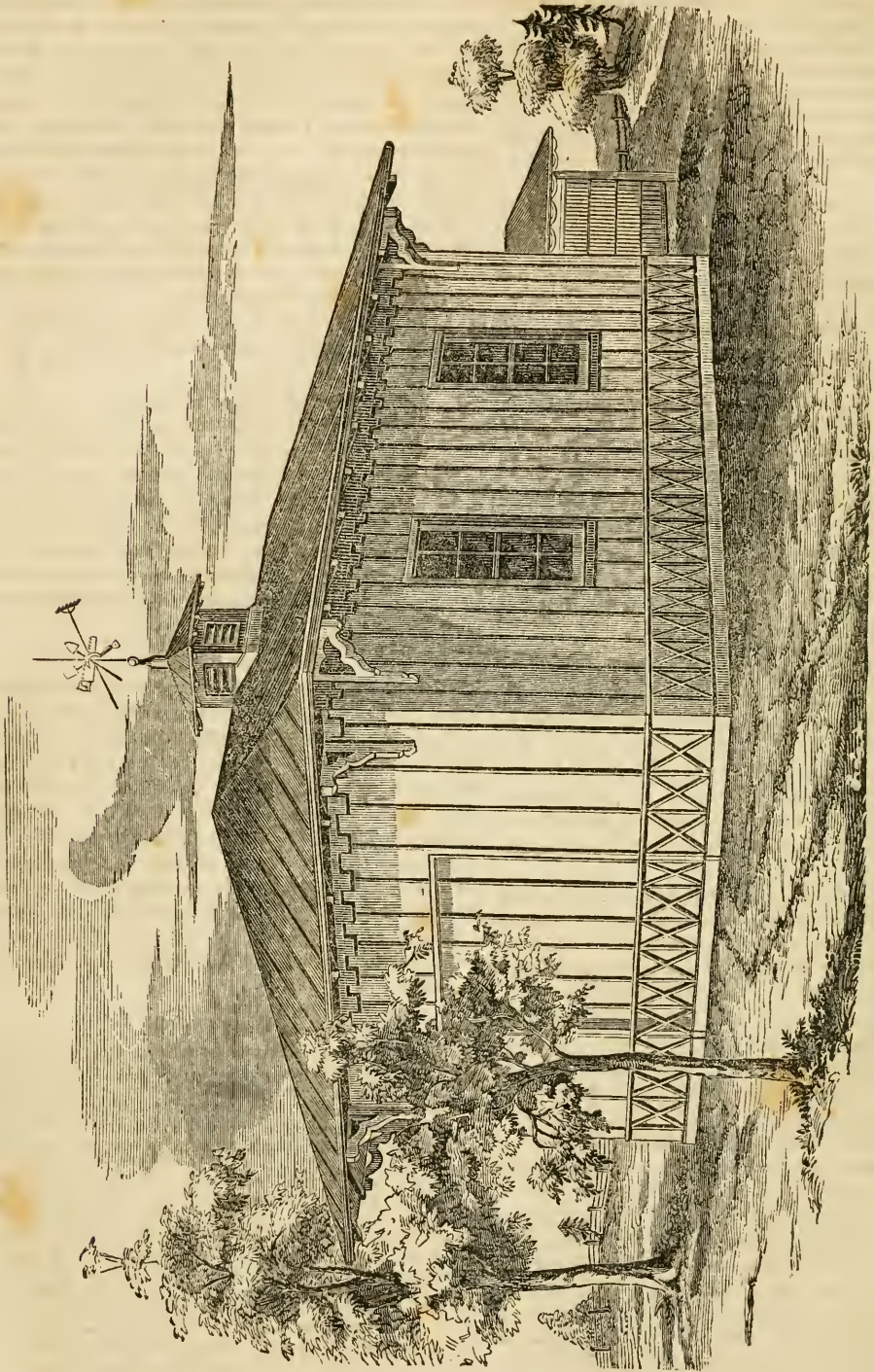
It will be well for farmers, who are feeding roots to their cows through the winter, to remember that any unpleasant taste may be avoided by milking them always *previously* to feeding the roots. We have also known the taste of garlic to be entirely avoided by turning the cows out of the field containing it a few hours previous to milking, say at noon. They may be pastured on fields abounding in it in first half of the day, after being milked, with impunity.

Devon Bull Payaski.

We hope ere long to be able to present our readers with a likeness of this bull, bred by A. Bidermann, Esq., of New Castle county, Delaware, and owned by C. Harvey, Esq., of Delaware county. He is about two years and nine months old, and was selected by Mr. Harvey on account of his superior "marks." Mr. H. informs us that when he first saw him he determined to purchase him "at any price." His escutcheon is a curve line of the first class, with a very heavy coating of yellow dandruff on the skin. His dam and grand dam are superior butter cows. Farmers in the vicinity desirous of raising good milkers should avail themselves of the opportunity.

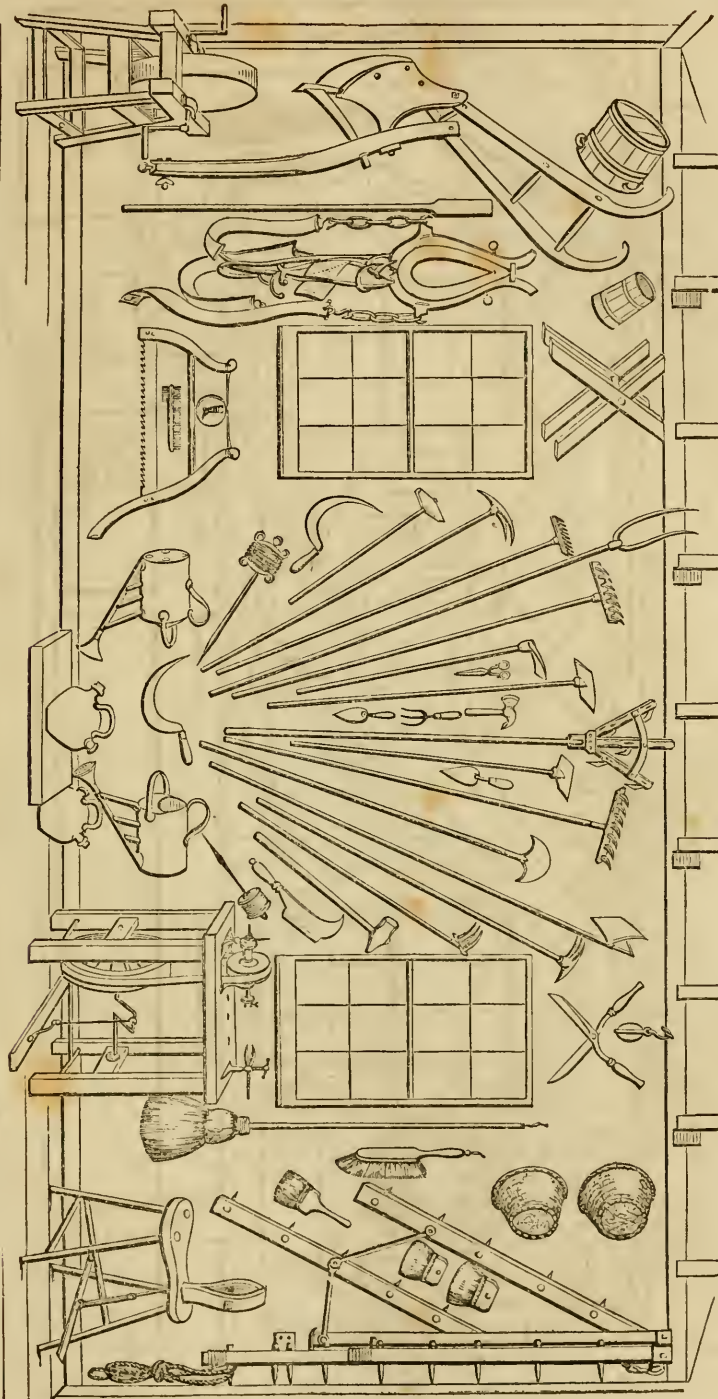
Markets, cost of Fruit.

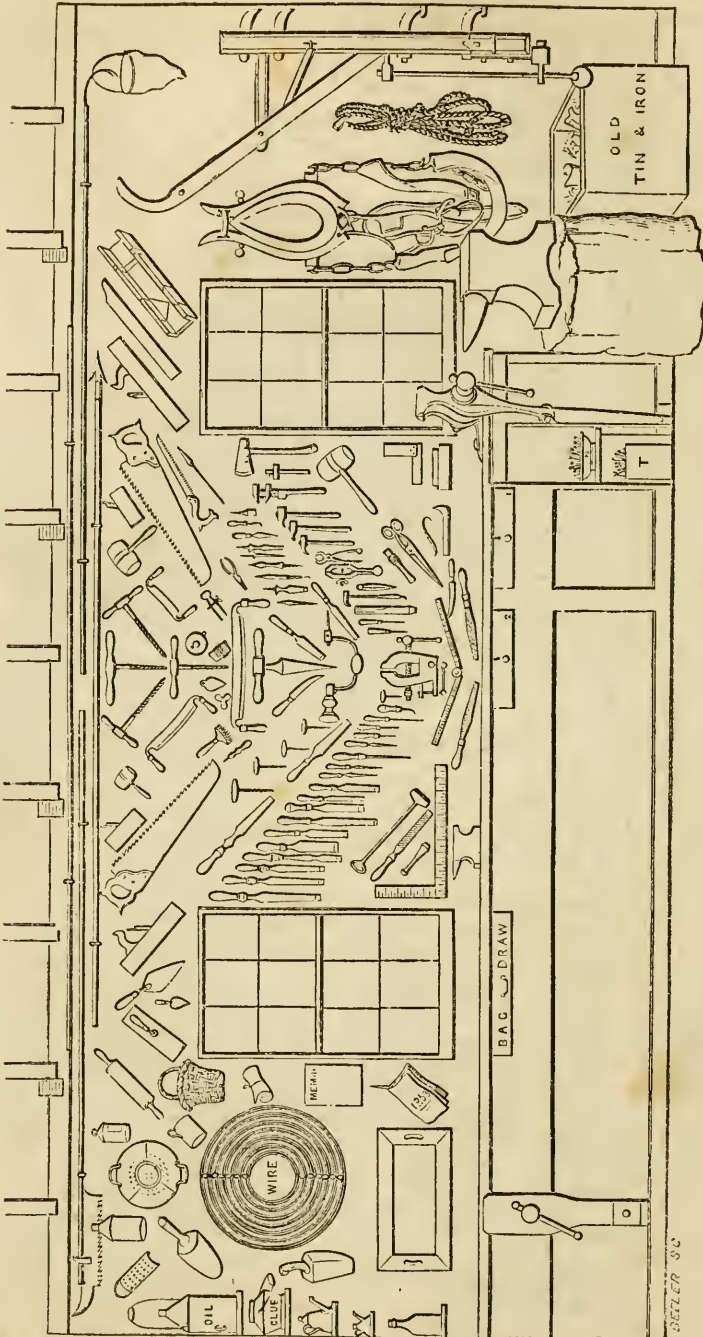
It would be a very interesting inquiry to ascertain the actual amount of money paid out by the people of the United States for fruit, in those regions where planting and cultivation would be the only requisites for a plentiful supply at all times, and a surplus for market. And it would also be worth while, during this investigation, to make a careful estimate of the amount that would be likely to be used, if all could obtain cheaply in market, or by their own raising, whatever they might need—would it not be twenty fold at least the present quantity? In a single new State, (Wisconsin,) possessing comparatively a small population, and whose people do not probably feel disposed to pay heavy sums of money for luxuries, it is estimated by F. K. Phoenix of that State, a gentleman very competent to the task, that "the direct tax, self imposed, for green and dried fruit, cannot be less annually, than \$300,000, which even then procures not one-twentieth part of a supply." We hear continued predictions of a glutted market of fruit—when, we ask emphatically, will it come? At the present rate, with the millions of trees set out annually, it seems on the contrary, to be constantly receding from us, the supply increasing actually less than the still more rapidly increasing and enormous demand in every direction.—*Albany Cultivator.*



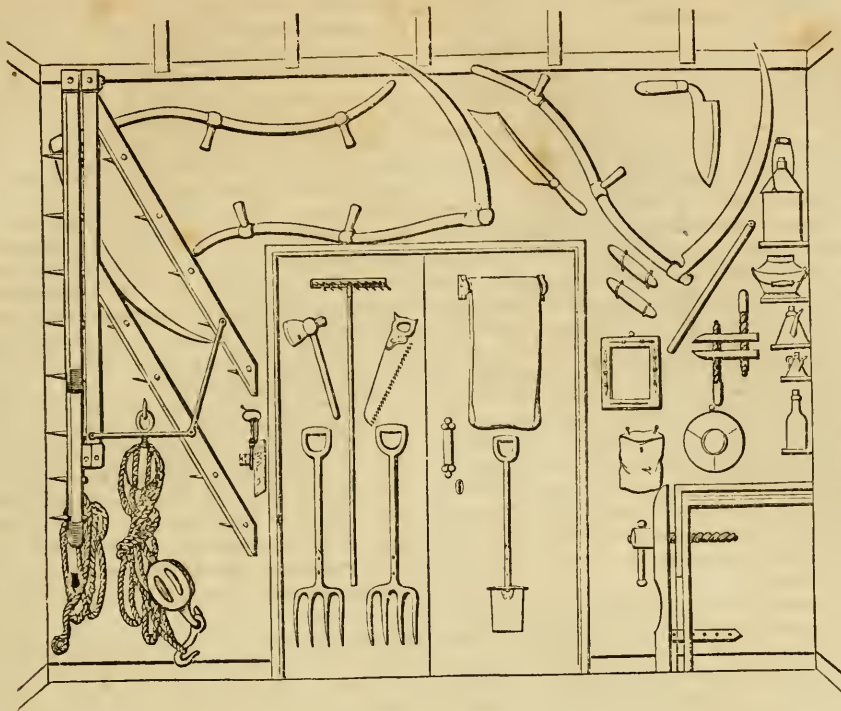
VIEW OF THE TOOL HOUSE OF TOWNSEND SHARPLESS, AT HIS SUMMER RESIDENCE IN BIRMINGHAM TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA.

INTERIOR VIEW---SIDE, NO. 1.

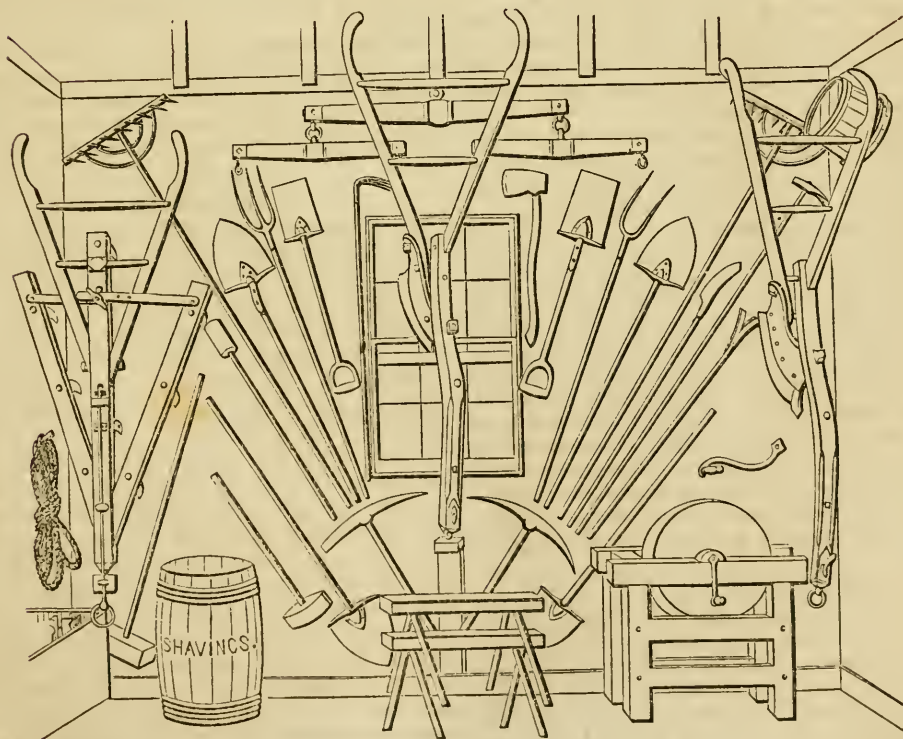




SIDE, NO. 2.



END, NO. 3.



END, NO. 4.

For the Farm Journal.

TOOL HOUSE.

"A separate place for each thing, and every thing in its place."

"All ranged in order, and disposed with grace,
Shape marked of each, and each one in its place;
Nor this alone the curious eye to please,
But to be found, when'er required, with ease.
If used or loaned, and not returned by rule,
The vacant shape will show the missing tool;
Thus often urged the careless will improve.
And rules of order soon will learn to love."

The Tool House, of which drawings are published in the present number of the Journal, is at the summer residence of a citizen of Philadelphia, located in this county. The building is 20 feet long by 12 feet wide, and is lined with smooth boards. The plates are an exact representation of the building and its interior arrangements, with a few slight exceptions; and notwithstanding there are about 200 tools or implements upon its walls, yet the number may be considerably increased by filling up the vacant spaces with smaller articles, as there may be occasion. The tools are well secured in their places, and yet may be taken down or put up with ease. They are supported by means of nails, iron hooks of different sizes (such as are used by plumbers), stout iron staples, both flat and round, and lighter ones made of wire with the ends sharpened, and of size proportioned to the weight of the tool.

The shape of each article is marked upon the wall, with a small stiff brush and ink, and the tools being upon the sides of the building leaves the floor free for other purposes.

Their methodical arrangement, and the shape of each being distinctly marked, combines advantages as to economy of space and security against loss, which could not perhaps be so well attained by any other mode, and it is believed to be the secret of causing things to keep in their places.

The writer, with whom the idea of marking out the shape originated, has had the plan in operation in various forms for many years, and always with satisfactory results, and the illustrations are presented to the reader in the hope that it may lead others to its adoption.

We need not remind the farmer how important it is that every one should have a work shop. A place where his tools may be neatly and conveniently arranged, and safely kept, and where those in his employ may occupy their leisure time pleasantly and profitably.

Carefulness is often the result of early training, but indolence lies at the foundation of carelessness. Other things being equal, the careful man is generally the prosperous one, while carelessness and thriftlessness being nearly allied always lead to loss, and frequently to disastrous results. Hence the importance of encouraging in youth habits of order, of carefulness, and of continuous useful industry.

Some who are borrowers are habitually neglectful in returning. Of these it has been humorously said, that "it was trouble enough for them to borrow." In the arrangement of tools as recommended, the value of the principle of association is forcibly illustrated, and perhaps there is no mode so effectual in impressing the necessity of returning borrowed articles.

"Signs which address the ear are lost and die
In one short hour, but that which strikes the eye
Lives long upon the mind. The faithful sight
Engraves the knowledge with a beam of light."

If, therefore, when a tool is loaned, the shape of it is seen distinctly marked in the place from which it is taken, it makes an impression upon the mind of the borrower, which is increased by a recollection of the fact that it will act as a tell-tale, and will not cease its importunities until its demand for the return of the article is satisfied.

It requires a little effort to carry the plan into effect. But

what that is valuable can be accomplished without it? To the energetic mind there is a pleasure in overcoming difficulties, and any one who will adopt the plan, however rude or imperfect may be the arrangement, will find a virtue in it in the preservation of his tools, and in promoting habits of good order beyond his expectations. Every one is an example to others for good or for evil, and he who has the resolution to make even one step forward may render important services in his neighborhood.

The writer would venture another suggestion. In every kind of business, there are details often neglected for want of being thought of at the proper time. To remedy this it is recommended that a slate or pasteboard card, with a pencil and a piece of India rubber attached, be hung in the shop, spaced and arranged under the proper head, so as to show what special duties are to be performed, and by whom to be attended to when at leisure.

If the principal would carry with him a small book, composed simply of two pieces of pasteboard, also spaced and ruled, and in it note each matter out of the common order of business, as it occurred to him, that required attention, and at convenience transfer them to the shop memorandum, to be there ready for suitable occasions, he would find it would insure the prompt performance of many small duties liable to be forgotten, the accumulation of which is often more burdensome to the mind of a business man than those of larger moment.

MIQUON.

N. B.—Previous to affixing the tools to the wall, the size of the space to be occupied should be marked out upon the floor, and the arrangement first made there. Some article should be selected as a starting point or centre, around which the others should be placed so as to produce a symmetrical effect. If not at first satisfactory, change the position of some, or all—arrange and re-arrange them, till they meet approval.

The ink for marking should be a little thickened, and spread upon a slate or other smooth surface to prepare it for use, as the lines should be made dark and distinct. A little chalk rubbed upon the place to be marked will cause it to receive the ink without difficulty.

For the Farm Journal.

ALDERNEYS.

MR. EDITOR:—I have just read some remarks by Mr. James Gowen of Mount Airy, upon most of the various races of cattle known in this country; and regret to find that he has emptied the vial of his wrath upon the devoted heads, of the *ill formed, hide bound, Goat akin, rickety Aldernies*, denouncing them as unfit for the farmer and the butcher, as yielding very little milk, furnishing straw colored butter, instead of yellow tinged with "couleur de rose," &c. &c.

Experienced as Mr. Gowen may be, and no doubt is, with Shorthorns, it is very evident that he knows little or nothing about the valuable animal he has so sweepingly and unhesitatingly condemned, that *prejudice*, instead of of reason, has so guided his pen and controlled his feelings, as to render him incapable of forming a just estimate of the merits of the animal in question.

The writer of this article has been perfectly familiar with Alderney stock, for the last thirty years, has sojourned for weeks at different periods in the Islands of Guernsey and Jersey, in the English channel, has travelled all over them, and examined, critically, the character and points of the cattle of each island, about which the inhabitants have had from time immemorial, bitter and interminable disputes—the Jersey men contending theirs to be the

best, and the Guernseymen, with equal pertinacity, maintaining the superiority of their own, whilst the unprejudiced stranger declares he can perceive no difference between them, both being equally good.

In opposition to Mr. Gowen's sentiments, it may be remarked, that from the earliest periods down to the present time, the best judges of cream and butter in all parts of the world have awarded the palm to Alderney cows. Why is it, that throughout England, Ireland and Scotland, the noblemen and gentry, the owners often of large herds of Durhams and Devons, always have one or two of these "*rickety goatakins*" about their parlor windows for their own use? Because they are well aware of the superiority of their cream and butter over those of every other cow. If otherwise why are the products of their Devons and Shorthorns sent to market, and not consumed at their own luxurious and expensive tables? Why does the cream from Alderney dairies in the vicinity of London bring a higher price than any other cream? Because it is thicker, richer, yellower and better than any other cream? Mr. Gowen would say, this preference "*can be traced to some freak of fashion.*" Fashion, no doubt, exercises a powerful influence upon the outer man and woman, in the shape of garments and trinkets, but the great inside pocket, the stomach, the seat of taste and even of intellect in the millions, commonly revolts sooner or later at unsavory viands and would soon declare war, in spite of fashion, against thin and watery cream and white insipid butter. Why did Mr. Gowen's quondam neighbor, the late Philip Physick, Esq., obtain for twenty years in succession the premium for Alderney butter at the cattle show of which Mr. G. is a prominent member, over all other competitors, over every pound of butter made from Shorthorns and Devons and Holstein, and native cows? Because the judges were influenced by fashion, and were not as capable of judging of the quality and color and taste of the numerous specimens of butter presented for competition as Mr. Gowen, who probably acting upon the principle of the juror, told the court that he himself was perfectly satisfied, but eleven obstinate fellows on the jury decided against him. Why will Alderney butter now and at any cattle show in the United States, obtain a premium over any other butter however well worked and printed, in spite of its straw color and deficiency of rosy hue? Because it is firmer, sweeter, of a deeper yellow color and more grateful to the palate in every way, whether salted or not salted, than any other butter. But does Mr. Gowen really and truly mean to affirm that Alderney butter is of a light yellow or straw color, and does he seriously, or jestingly avow that he, or any one else, ever saw butter the color of a rose? The truth is, the great peculiarity of Alderney butter so far as color is concerned, is the deep orange or saffron color pertaining to it, a color peculiar to it in winter as well as summer, independent, in a great measure, of the food consumed by the cow, and equal at all times to other butter made in May or June, when cows are fed upon grass. So uniform and constant is this deep yellow tint that it is almost impossible to persuade dairymen and marketmen themselves that it is not colored—men who if they are honest, will acknowledge that they all color, with annetta, and other articles, during the winter their butter made from common cows.

If yellow butter, therefore, artificially colored, will bring a better price in market than white butter, as all marketmen well know, why should not butter, *ceteris paribus*, colored by the cow, do the same, and why should such cows be unprofitable to the farmer? In truth every man who is *practically*, and not theoretically, acquainted with the character of Alderney cattle, well knows that the milk of a single full bred cow of that breed will color the milk of 7 or 8 common cows. This alone should be an inducement to farmers to possess Alderney stock, independently of other considerations, which might if necessary be easily enlarged upon.

Mr. Gowen strongly intimates that an Alderney cow gives very little milk, comparing her with common road cows, that do the same thing. Now it is well known that a fine Alderney cow will yield 12 or 14 quarts of milk a day, and that a large portion of that milk is converted into cream, which cream, in many instances, will furnish 12 or 14 lbs. of butter a week. In extraordinary instances 19 or 20 lbs. of butter a week have been made from a single Alderney cow, or "*ricketty goat akin.*" Will an enormous Durham, which consumes as much hay or grass as an elephant, though she may yield 20 or 30 quarts, do any more? Admitting that she makes the same amount of butter or more, which is the most profitable to the farmer, the great consumer of food or the small one? We once stepped from curiosity into Rhoad's great milk establishment at Islington, near London, and saw 999 cows, all of the Short-Horn Durham stock, under different sheds. Upon asking the proprietor why he preferred these animals to Devons and other stock, he candidly replied, "because I sell *milk*, and Durhams give a larger quantity of their blue milk than any other cows, and I can swear I don't water it. If," he continued, "I wished to make butter I should select Aldernies or Devons." It is not calculated by these remarks to undervalue Durhams. Some of them it is known yield very rich milk and a large amount of butter. But they are "few and far between." Durhams, however, are objectionable upon other grounds, and as Mr. Gowen probably alludes to them, when he speaks of "*large, healthy and fine animals,*" there can be no impropriety in stating that a Durham is an artificial animal, very subject to disease and peculiarly liable to consumption, especially in this climate. This position could be abundantly fortified if necessary, and it is only mentioned as an offset to Mr. Gowen's assertion or insinuation that an Alderney is delicate in constitution and liable to disease. This is very far from being the case, so far from it indeed as to be remarkable for their hardiness and freedom from disease, and standing the cold of our winter, and summer, as well as native stock. Mr. Gowen has stigmatised Aldernies as "under sized, ill formed, and such hard feeders that is impossible to get beef on them."

A genuine thorough bred Alderney cow is not much, if any, smaller than a common cow of native stock. The "mouse colored" cow, so commonly considered by him and by farmers throughout Bucks and Chester and other counties of Pennsylvania as "*Aldernies,*" have not a particle of Alderney blood in their composition. They are commonly diminutive and mouse like it is true, but their skins and udders are white, their horns and tails thick, marks perfectly indicative of their blue milk and white

butter. As to the impossibility of getting beef upon them, this is a gross mistake and altogether at variance with the best European writers on cattle, even those that object to Alderneys upon other grounds. It is, on the contrary, conceded by almost every one that they fatten easily, and in a very short time are ready for the butcher. That an Alderney is an ill formed and unsightly animal is admitted by most writers to be true; and yet these allegations ought to be received in a restricted sense. It must be conceded, for instance, that the *tout ensemble* is disagreeable, and well calculated to produce, at first sight especially, unpleasant reflection, but when we come to analyse individual points and dwell upon conformation and expression, we are forcibly struck with the symmetry and proportion of numerous parts. Where shall we find, for example, a more bright, intelligent and sparkling eye, filled at the same time with soft and dreamy mildness. Look, again, at the small delicately formed head and dished face, the small curved horns, the neat, narrow, well proportioned ear, peculiarly set on, and capable of being thrown by the animal backwards and nearly parallel with the neck. Observe the smooth, soft gloss and velvet like skin, the color of saffron or gamboge, the long, very slender and tapering tail, the thin, flat, deer-like legs, the large abdomen, a sure indication of health and nutriment in all animals, the uncommonly conspicuous milk veins, their unwonted length, the size of gun barrels, the beautifully formed, capacious udder, feeling and looking when cleanly milked out like a buckskin bag. Finally look at the step and action of the animal, almost as quick and firm and graceful in its carriage or movement as a race horse. But what have we to do with symmetry and beauty in a cow. Do they contribute to the secretion of milk? On the contrary all fat, round, well turned, closely filled up cows are poor milkers; their nutriment is converted into fat and flesh, they are sluggish and ungainly in their movements, and are better fitted for the knife than the dairy.

This communication might be easily extended to a greater length, but shall be closed for the present by an extract from the work of the late Henry Coleman, well calculated to present in an unfavorable light all Mr. Gowen has advanced on the subject:

"Of all the cows which I ever saw," says Mr. Coleman, "the *handsomest*—that which gave the best promise of being what a cow should be—was an Alderney, or rather, improved Guernsey cow, brought from one of the Channel Islands, and shown at the meeting of the Royal Agricultural Society at Southampton. She was rising two years old, of moderate size, compact and well shaped, of that yellowish dun color which generally characterises the breed, with a large and golden udder, ear of an orange color in the inside, a clean and thin neck, and the bright eye of a gazelle. They are valued mostly for their milking properties, and not so much in that respect for the quantity as for the *extraordinary rich and creamy quality* of their milk, in which certainly they surpass all other breeds. It is said that no animals will thrive faster when well fed, when off their milk, and their size is not always inferior. I found at Walbeck, the residence of the Duke of Portland, a herd of Alderney cows of the size of ordinary cows, and in good

condition. Few gentlemen or noblemen in England, resident in the country, are without one or more Alderney cows for the supply of their tables with cream and butter, and I never had the slightest difficulty in instantly recognising their produce. They are kept, in some proportion, at some of the large dairies in England for the purpose, by mixing their milk with that of the cows of a different breed, of giving color to the butter and richness to the cheese. It is objected to their beef that the fat of it is too deeply yellow, but otherwise it is of excellent quality. Two oxen of this breed fattened by Sir Charles Morgan, weighed alive, the one *one thousand six hundred and ninety pounds*, the other *one thousand six hundred and fifty pounds*."

To all which what will Mrs. Grundy say?

January 17th, 1854.

RUSTICUS.

The American Handbook of Ornamental Trees.

BY THOMAS MEEHAN, GARDENER.

A small work of 250 pages, duodecimo, under the above title has just been issued by Lippencott, Grambo & Co., of Philadelphia. It supplies a vacuum which has long been wanted, is sufficiently scientific for all useful purposes, and we think exactly adapted to the requirements of the present times. It will doubtless have a wide circulation. Over three hundred trees and shrubs are enumerated in it, with a description of their native habitat, botanical character, mode of growth, habits, and soil most congenial, together with the method of propagation. The proper grouping and arrangement of trees, with respect to color, shade and contrast, to which but little attention, has been paid as yet in this country, is also treated of, together with the proper season, and correct mode of transplanting, pruning, &c.

On looking over the work we have been surprised at the amount of information contained in such a compass, and cordially recommend it to every one who has ground to be planted, either in town or country. The authors extensive experience, both in this country and in Europe, as a practical gardener, has made him familiar with every tree and shrub he has described, and with the exception of the experienced Botanist who delights in refined and extended technicalities, the work contains all that is wanted to be known by 99 people out of a 100. The Botanical and common names are both given, with a short Botanical description, with the classes and orders of both the Linnean and natural system, an index accompanies, and an appendix of plants but recently introduced. Persons remitting seventy-five cents, to the author, Holmesburg, Pa., will receive the work by mail free of Postage.

We extract the following excellent observations on the *Choice of Trees*.

For shade trees it is considered advantageous to possess the property of transplanting easily. This is a great reason why certain trees become so popular in some districts as to give them a character. But, in reality, there are no trees difficult to transplant. When the true principles of the operation are understood, a beech may be transplanted as easily as an ailanthus, or a sourgum as a maple. This I hope to make plain to the reader as we proceed.

In choosing trees, prefer those raised in a nursery to those growing naturally in the woods. Most persons are aware of the difficulty of getting the latter to do well. A glance at the nature of roots will teach us the reason. There are two sets of roots to most trees, perhaps to all. One consists

of *fibres*, the sole office of which is to draw matter from the soil for the use of the tree; the other of *true roots*, which extend and keep the tree in its position, affording at the same time channels for the conveyance of the matter absorbed by the fibres. This distinction must be well noted. Fibres, as I have repeatedly proved, are *annual*, dying out after a season's service. New fibres make their appearance as the extending roots grow; and are, consequently, farther away from the collar of the tree in proportion to its age.

The roots of trees have their peculiarities of divarication as well as the branches. Some trees grow erect, or horizontal, making few side shoots, and looking always sparse and thin; others branch and rebranch in every direction. So it is with their roots. The sour-gum throws out a few strong roots, scarcely making a single fork, while the linden throws out an abundance of rootlets in every direction. If we attempt to take up a specimen of the former by the common practice, that is, by opening a trench but a few feet from the trunk, we find that though we may have a great many roots, we have very few or no *fibres*. They are left with the roots in the ground, at their extremities. Such a tree is reduced to the condition of a mere cutting, and without the treatment proper for a cutting cannot grow. Trees taken up by the same mode, that have an abundance of branching roots are more likely to have fibres near the stem and so succeed. This constitutes the chief difference between a tree that will "renovo easily" and one which will not.

It should be an early inquiry whether a tree proposed to be transplanted have the above mentioned conditions of success or not. A tree from a nursery has been transplanted when very young, perhaps several times. The repeated cuttings off of the young roots cause them to branch out numerously, attended, of course, by an abundance of fibres. That is exactly the tree for the planter. Trees from the woods will be in a worse case. When they are particularly desired, there are two ways of procedure. We may dig out a space two feet deep, at from four to six feet from the trunk of the tree, according to its size, which will cut all the roots to that depth. Immediately replace the earth, into which they will fibre. The following year the tree may be removed with safety. In the other case, the roots should be followed to their extremities, the fibres gathered together carefully, and rolled up with the roots towards the trunk of the tree, where they can be protected from injury. The ball of earth on which so much care is given to cultivated trees, is of little importance in this case. There being but few fibres at the base, the ball can be of slight service, while it materially adds to the expense, and is actually a drawback by rendering the tree more unmanageable.

In these two modes of removal, success greatly depends upon the operator; a careful, persevering, determined hand, performs more and with better results, than a hasty, undecided, and unpractical individual. The latter mode, in the right kind of hands, will give the most satisfaction in the end.

Wonders of the California Vegetable World.

Dr. Gibbons, of San Francisco, speaks thus of the Agricultural Fair lately held in that city:

On entering the room you are struck with the tasteful decorations and the profusion of plants, many of which are rare and beautiful. On the table are several varieties of squashes, the largest of which weighs 21 pounds; onions weighing 4 pounds, and measuring 22 and 23 inches in circumference; beets 36, 38, 49, and even 51 pounds—several of the long variety, one of which measures 2 feet and 8 inches, to which another foot may be added for the missing extremity, which appears to have been pulled through by the antipodes; sweet potatoes from San Jose, 12 and 13 inches long, 8 weighing 20 pounds; carrots 5, 8 and 10 pounds, and turnips raised to order of any size called for! The most striking feature, however, is the potatoes, specimens of which weighing 4 pounds, and measuring a foot or more in length, have been sent from all directions, San Jose, Santa Cruz, Alamea, Oakland, &c. There are 72 bushels or 700 pounds, the potatoes raised at San Jose. It is a remarkable fact that this vegetable requires no cultivation in any part of California. The seed is planted without manure, and not a plough or hoe touches the field till the crop is gathered. These large potatoes are always of the best quality and never hollow or false-hearted. In the vicinity of Santa Cruz the potatoe has been attacked by an insect, which enters at

the eyes and burrows through the tuber destroying it. The appearance of this insect is an evil omen.

Some ten or twelve varieties of wheat are exhibited, the growth of California and Oregon, some of which produce sixty to seventy bushels an acre; weight sixty-five pounds per bushel. One specimen of barley is exhibited as part of a crop of one hundred and forty-nine bushels to the acre. Oats nine feet four inches high, and one specimen ten feet seven inches. The specimens of flour are very interesting. They are from various quarters of California and equal in quality to the celebrated brands of Gallego and Haxall.

Among the fruits are grapes. A common weight of the clusters being five and six pounds; delicious sugar pears many of which exceed one pound—cluster of four on a stem weighing seven pounds from San Jose. Pound pears, the largest weighing two pounds, and Washington pears of uncommon size and beauty. Apples from Oregon and California, one of which is twelve inches in circumference; three apples from a single graft, one year old, from San Jose, Pearmain and Seek-no-further from the coast near Bolinas, trees planted last year and growing directly on the borders of the ocean in a sunny nook backed by high hills to leeward.

There are many choice specimens of embroidery and needle work, shell work, and wax fruit. Also, a collection of beautiful algae, collected and tastefully arranged by Mrs. Boston, of Monterey. Some luxuriant specimens of a noxious plant called 'obacco, apparently not very interesting to the lecturer. A quantity of mustard seed weighing five ounces and a half, the product of three seeds, each seed producing by computation seventy thousand. This is the most troublesome weed in California, growing so high as to overtop one's head when riding on a horse. It frequently takes possession of a field and ruins the crop, the stems growing six inches in circumference, and effectually prohibiting the use of the scythe or sickle.

Regularity in Feeding.

If there is one rule which may be considered more imperative than any other in Sheep Husbandry, it is that the utmost regularity be preserved in feeding. First, there should be regularity as to the times of feeding. However abundantly provided for, when a flock are foddered sometimes at one hour and sometimes another—sometimes three times a day and sometimes twice—some days grain and some days none—they cannot be made to thrive. They will do far better on *inferior keep*, if fed with strict regularity. In a climate where they require hay three times a day, the best times for feeding are about sunrise in the morning, at noon, and an hour before dark at night. Unlike cattle and horses, sheep do not eat well in the dark, and therefore they should have time to consume their feed before night sets in. Noon is the common time for feeding grain or roots, and is the best time if but two fodderings of hay are given. If the sheep receive hay three times, it is not a matter of much consequence with which feeding the grain is given, only that the practice be uniform.

It is also highly essential that there be regularity preserved in the amount fed. The consumption of hay will, it is true, depend much upon the weather. The keener the cold, the more sheep will eat. In the south much would also depend upon the amount of grass obtained. In many places a light daily foddering would suffice—in others, a light foddering placed in the depository racks once in two days would answer the purpose. In the steady cold weather of the north, the shepherd readily learns to determine about how much hay will be consumed before the next foddering time. And this is the amount which should, as near as may be, be *regularly* fed. In feeding grain or roots there is no difficulty in preserving *entire regularity*, and it is vastly more important than in feeding hay. Of the latter a sheep will not overeat and surfeit itself. Of the former it will. And if not fed grain to the point of surfeiting, but still overplenteously, it will expect a like amount at the next feeding, and failing to receive it, will pine for it and manifest uneasiness. The effect of such irregularity on the stomach and system of any animal is bad—and the sheep suffers more from it than any other animal. I would much rather that my flock receive no grain at all, than that they receive it without regard to regularity in the amount. The shepherd should be required to measure out the grain to sheep in all instances—instead of guessing it out—and to measure it to each separate flock.—*Sheep Husbandry.*

BREEDING STOCK.

The very erroneous idea is entertained by some farmers that the excellence of stock depends *merely* on food and keep, and its productiveness and profit on rich and highly cultivated farms is adduced to sustain the position. "Quality goes in at the mouth," "the value of a pig depends upon the trough," are expressions not unfrequently heard, and are most mischievous in their tendency. They strike at the very root of all improvement in stock breeding.

While it is true that a cow or steer will not make rich milk or beef without proper food, and the quantity depends to some extent on the *amount* of food, still there are *inherent* tendencies and dispositions which *distinguish* individual animals, and which no treatment or management can materially alter.

These natural qualities often characterise the breed, and produce different results under the same circumstances and from the same treatment. It is by selecting such individuals as have certain desirable qualities, and carefully breeding them with others, through a course of years with a view to retain these and also secure others, that they at last become *fixed, constitutional and permanent*. Herein lies the true *science* of breeding, which was pursued with such success by Charles Colling, under whose auspices the Short-Horns have attained their present high degree of perfection. He was distinguished above all other breeders of his day by a fine discriminating touch, which enabled him to judge of the quality of the flesh and tendency to fatten, to which much of his extraordinary success is attributed.

His great starting point was to secure such animals as had the *inclination to fatten*. This he never lost sight of whatever else he desired to secure, and the improved Short-Horn of the present day retains this peculiarity to a greater degree than any other breed now known. One of our recent foreign exchanges has an excellent article on the subject from which we extract the following, and illustrates the above views by analogy in the vegetable kingdom. Referring to the experiments of Mr. Lawes some years ago, it says:

He showed that it was the quantity rather than the character of produce that was capable of modification by skilful management in this particular: that, whatever naturally were the characteristic features of any plant, the development and not the alteration of those features was all that lay within the scope of the mere art of cultivation. You could not by the skilful use of nitrogenous manure increase the *nitrogenous* character of the wheat grown upon it; all that you could hope to do was to develop to its utmost the character, whatever that might be, of the grain that was being grown. Wheat is particularly a starchy seed; and Mr. Lawes found that, by the proper use of nitrogenous manures, that grain became richer, not in gluten and its other nitrogenous ingredients, but in starch its natural product. The whole plant exhibited a more vigorous growth, and proved both more abundant in produce and more marked in the natural character of that produce than ordinarily it was. If, therefore, any one should desire to procure a produce of a different sort, he must aim at it from the very beginning by impressing a different character on the plant he grows, rather than in the course of cultivation by varying the treatment of the plant in respect of manure. It is by hybridising artificially, or by selection, which is just choosing instances of natural hybridising—so obtaining plants with a natural bent towards the end at which you aim—and then by artificial stimulants which will give them an extra-natural impulse along the course their nature dictates, that this end at which you aim can alone be fully reached.

Now all this finds its parallel and close analogy in the ani-

mal world. We have, during the past week, examined several herds of cattle comprising at least 500 head of stock, and yielding among them three different kinds of produce. And we have been exceedingly struck with the shillarity of the management, along with the diversity of the result. Just as two fields shall be manured and cultivated alike, and yet the vegetable produce at harvest differ exceedingly, owing to original and inherent difference in the plants, and to that alone; so here were cattle yielding beef, or milk, or young stock of peculiar quality, according to the original and inherent character of the animals, and to that alone.

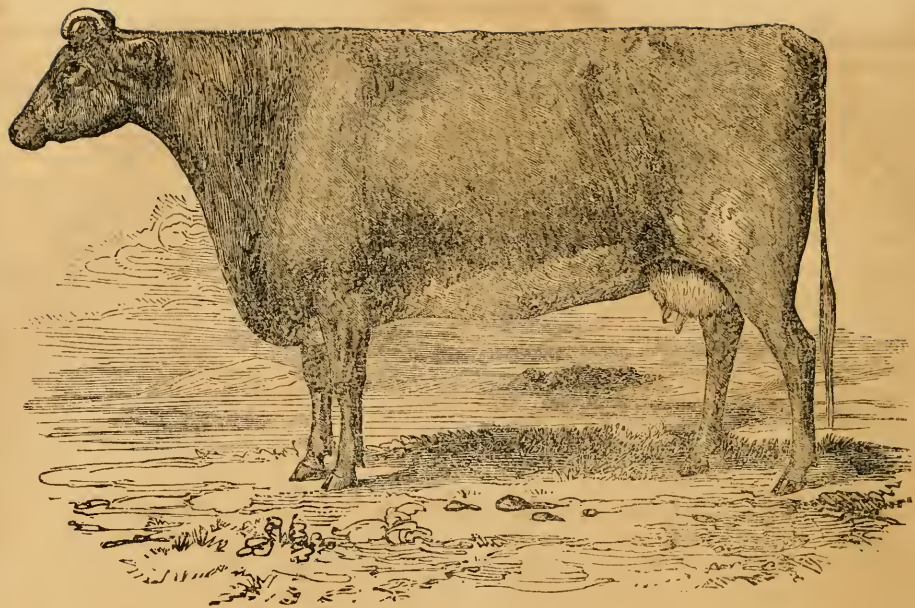
The following is the treatment at one of the places we have lately visited. The cattle are fed at half-past 5 in the morning with a bushel of grains between two, after 6 they have about 4 lbs. weight of hay apiece, and at 9 they get an oilcake between two, or 3 lbs. each; after that another bushel of grains between two, and they are then let out, two at a time, for a few minutes to water; they then come in to a clean fresh bed, and lie down till the afternoon; they then receive 30 lbs. of Mangold Wurtzel apiece, and at night get 4 or 5 lbs. more hay. Now can any one tell whether that is meant for milk or beef—or breeding stock? Perhaps the last is the least likely to be named; but we know that the proverb still obtains with many, "that more than half the quality of a beast goes in at the mouth."

The bill of daily fare just quoted is, in fact, that at the present time of a great dairy establishment in Camden Town; but that it would be as admirably adapted for making beef as it is for making milk, is proved by experience of it on the spot. Mr. Brown, the intelligent owner of the herd, tells us no difference is made in the treatment of the animals; and those which are running dry get rapidly fat on the very same food as is given to the good milkers in adjoining stalls. Some of them may yield 16 to 20 quarts a day, though the average of the herd and of the year does not much exceed 10 quarts each a day, and good milkers are bare of flesh on the very food which is making Christmas beef beside them. Here, then, the lesson is plainly taught that quality of animal, even more than quality of food, guides and produces the result. And "quality of animal," we must remember, does not "go in at the mouth;" it is handed down from generation to generation until the temperament, habit of growth and natural tendencies become fixed and constitutional. At the Baker Street Bazaar, during the past week, there has been many an animal covered thick with flesh, which has been fed no better than many a milk cow with projecting bones is now being fed in the London byres; and at Hendon we have seen heifers out at grass in which no stinting of food seems able to keep down the natural tendency to fat.

Mr. Pusey takes the case of a farm maintaining a flock of 300 sheep half a century ago, but capable now of keeping double the number; and he shows how, though the number is only doubled, the annual supply of meat from that farm is six-fold what it was; for if the art of the cultivator has doubled its ability, that of the breeder has increased three-fold—if owing to well directed exertions on the one side, food for twice the number of stock is provided, yet, owing to exertions on the other, the same number of stock will in the consumption of the same food produce three times as much flesh.

In olden time the flock when numbered in summer would consist of ewe and lamb, shearing, two-shear, three-shear, and perhaps four-shear sheep, respectively, only the last being ready for the butcher; the food of five and perhaps six per annum thus resulting in the maturity of one; but now the flock, counted earlier in the season than before, is the ewe, its lamb, and a shearing already fit for slaughter. The food of four or five as one, was needed to produce one fat sheep a year, but now the food of two suffices for that purpose. And the history of cattle is quite as instructive: the influence of skill in the breeding has tended to as great an economy in the feeding—as great a produce of meat from the consumption of a given quantity of food—in the case of cattle as in that of sheep. All this is proved by the way in which the same food acts respectively upon well-bred oxen and on mongrels, in the experience of all breeders and all feeders.

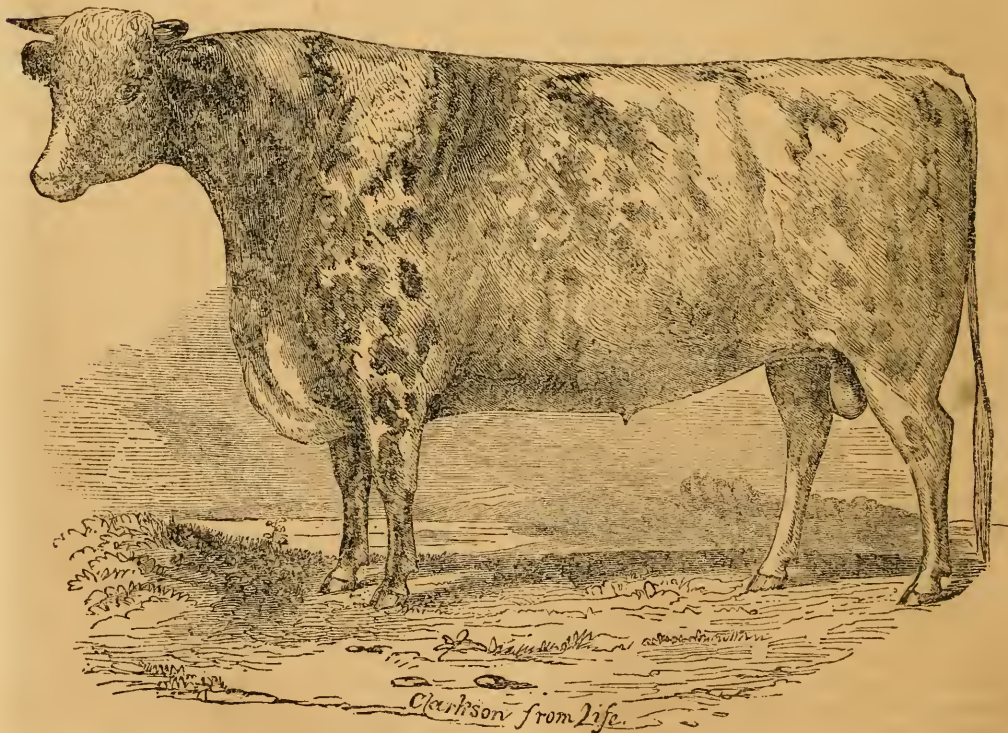
A GREAT WHEAT CROP.—The Le Roy, (N. Y.) *Democrat* says that Hon. A. S. Upham, of that village, from a field of 100 acres, has raised and gathered in good order 3,600 bushels of wheat this season.



Durham Cow, June 3d, owned by Gerard Cope, near West Chester, Chester county, Pa.

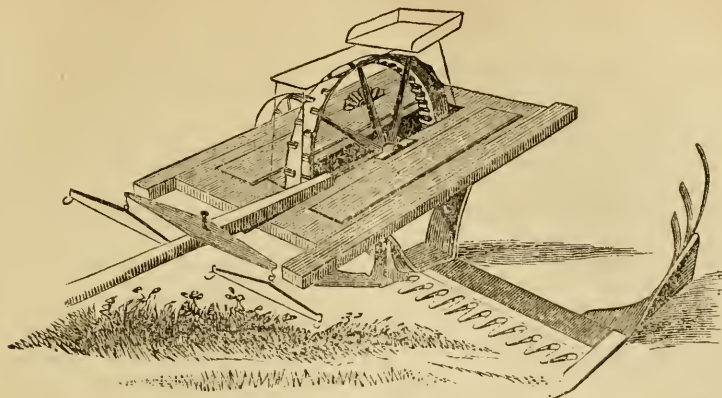
Sire, Louis Phillippe, dam, June the 2d, by the imported Bull, "His Grace," grand dam, "June the 1st," begotten in England by "Clarley," great grand dam, "Red Rose," (imported by Paschall Morris,) by young "Magnum Bonum," gr. gr. g. d. by "Barnpton," gr. gr. g. d. by "Northumberland," a son of "Comet." "Louis Phillippe" was got by "Henry Clay," dam, the imported cow "Boss," that made over 15 lbs. of butter in a single week. June the 3d took the first premium for the best thorough bred Durham Cow, at the recent show of the Chester County Agricultural Society.

We were compelled, much to our chagrin, to defer publishing a likeness of this cow in the last December number, owing to the portrait then prepared containing several defects. The above portrait, engraved by Clarkson, is more accurate.



DURHAM BULL NAPIER.

Sire Bates Bull, "Belvidere," dam, "Fanny 31," grand dam, imported "Fanny 2d," "Fanny 31" was bred by Geo. Vail, of Troy, New York, and got by his Bates Bull, "Meteor." The dam of "Meteor" was the imported cow "Duchess," sire, imported "Duke of Wellington," both bred by Thomas Bates, Esq., of Kirk Leavington, Yorkshire, Eng. and imported by Geo. Vail, Esq.



Allen's Improved Mowing Machine, Patented Nov. 8, 1853.

The above machine is similar in many respects to Ketchum's Mowing Machine, and from its simplicity and cheapness is believed to be one of the best and most efficient implements now out. Among its advantages are, the easy draught for the team and not being liable to choke or clog, and facility for running over the fields, or road as well as a common horse cart. The side wheel and jointed axle, and spring, save the necessity of loading when moved, and allow the machine to vibrate to suit uneven ground.

The cutters need but little grinding, sixty acres having been cut with it in the best manner, without grinding. This is principally owing to the stationary blade, which the vibrating blades work against.

Some of Allen's Mowers have mowed two to three hundred acres, without a wheel having given way or a cog being broken so far as heard from.

One of the machines can be seen at Paschall Morris & Co's. Agricultural Warehouse, and Seed Store, north east corner of 7th and Market sts., Philadelphia, who are agents for the sale of them.

Tredyffrin Agricultural Society.

This spirited little association has held a number of meetings during the present season, at which much valuable information has been inculcated. Among those who have lectured before the Society, is our friend Maj. Freas, editor of the Germantown Telegraph. A sketch of the address, embodying some extracts, was promised us by a gentleman who was present, but we have as yet got nothing beyond the promise.

Philadelphia Society for Promoting Agriculture.

At the annual meeting of the Philadelphia Society for Promoting Agriculture, held a few evenings since, the following gentlemen were unanimously elected officers for the ensuing year:

President—A. L. Elwyn, M. D.

Vice Presidents—Anthony T. Newbold and Aaron Clement.

Corresponding Secretary—Sidney G. Fisher.

Recording Secretary—Alfred L. Kennedy, M. D.

Assistant Recording Secretary—P. R. Freas.

Treasurer—George Blight.

Executive Committee—David Landreth, Dennis Kelly, A. S. Roberts, Anthony T. Newbold, Samuel C. Ford, Charles W. Harrison.

Susquehanna County Agricultural Society.

At the recent annual meeting of this Society, the following premiums were awarded:

To JUDGE JESSUP, the first premium on winter Wheat, for 33 bushels, weighing 66 lbs., to the acre.

To JOHN HARRINGTON, first premium on Corn, for 66 bushels, weighing 60 lbs., to the acre—measured and weighed, fit for market.

The following officers were elected for the ensuing year:—

President—Caleb Carmait.

Vice Presidents—Rufus Smith, Amos G. Bailey.

Corresponding Secretary—Thomas Nicholson.

Recording Secretary—Wm. H. Jessup.

Treasurer—George Fuller.

Managers—Abel Cassidey, Stanley Furrel, Amherst Carpenter, Perrin Wells, Samuel H. Sayre, Robert J. Kent.

The Next State Fair.

The Executive Committee of the Pennsylvania State Agricultural Society passed a resolution on the 17th of January last, designating the 27th, 28th and 29th days of September next for the Annual Fair and Cattle Show, and appointed Isaac G. McKinley, A. R. McIlvaine and A. L. Elwin, a committee to receive proposals, and make report to the next quarterly meeting of the executive committee to be held in April.

Reading, Harrisburg and Philadelphia have each been mentioned as the most eligible place for the next fair. Other places may yet put forward their claims. Communications may be addressed to the committee jointly at Harrisburg, or to either of the members at their residences;—I. G. McKinley, Harrisburg; A. R. McIlvaine, Brandywine Manor; or Dr. A. L. Elwin, Philadelphia.

Officers Schuylkill County Agricultural Society.

The annual election of the Schuylkill County Agricultural Society was held on the 3d of January last. The following officers were elected for the ensuing year:

President—Hon. J. Hammer.

Vice Presidents—Joshua Boek, J. J. Paxson.

Recording Secretary and Librarian—J. S. Keller.

Corresponding Secretary—John Bauman.

Treasurer—W. A. Hammer.

Curators—Dr. J. F. Treichler, Reuben Peale.

Annual Meeting of the Penna. Horticultural Society.

The Annual Meeting of the Society was held on Tuesday, January 17, 1851.

Caleb Cope was called to the Chair, and Nathaniel Knowles appointed Secretary.

The object being stated by the Chairman to be the election of officers, Thomas Clark and Charles Harmar were appointed tellers, who, after the balloting, reported that the following gentlemen had received the highest number of votes, whereupon the Chairman announced that they were elected officers for the ensuing year:

President—Gen. ROBERT PATTERSON.

Vice Presidents—James Dundas, W. D. Brinkle, M. D., Richard Price and Robert Cornelius.

Treasurer—John Thomas.

Corresponding Secretary—Thomas C. Percival.

Recording Secretary—Thomas P. James.

Professor of Entomology—Samuel S. Haldeman, A. M.

Professor of Botany—William Darlington, M. D.

Professor of Horticultural Chemistry—Robert Hare, M. D.

An Interim Fruit Report for December.

PHILADELPHIA, December 20, 1853.

To the President Penn. Hort. Society.

The Fruit Committee respectfully report that since the November meeting of the Society, the following fruits have been received by them:

From Mrs. J. R. Latimer.—Pears for their name, grown by Dr. Charles Kuhn of this city. These were unusually fine specimens of the *Echaserie*.

From Lloyd N. Rogers, Esq.—Baltimore—Fifteen varieties of Pears.

1. *The Dis.*—Although the specimen received was not so large as some we have seen, yet it was in quality "best."

2. *Bezi de la Motte.*—This variety is exceedingly productive; the fruit is fair, of fine texture, and buttery, but so utterly destitute of flavor as to be worthless.

3. *Urbaniste.*—Specimens very fine. This Flemish variety is one of the best of the foreign pears. In the November number of Hovey's Magazine, we are told that "the *Beurre Soule* has long been familiar to Boston Pomologists as the *Urbaniste*." In regarding the *Beurre Soule* and the *Urbaniste* identical, the Boston Pomologists are, we think, in error. The specimens of the former exhibited in 1848, as was remarked at the time by one of their ablest Pomologists, bore some resemblance to the *Hanners* (Cushing,) much more so indeed than to the *Urbaniste*, though we do not consider it synonymous with either of them.

4. *General Taylor.*—Size, under medium, two and a half inches long by two and a half wide; form, turbinate, obscurely pyriform, broad at the crown; color cinnamon russet, becoming fawn on the exposed side; stem, three-fourths of an inch long and one-eighth thick, inserted into a very small cavity; calyx, partially closed, set in a broad, not very deep, furrowed basin; core, medium; seed, dark brown, ovate, no angle at the obtuse end; flesh, yellowish white, granular, becoming buttery and melting, but somewhat gritty at the core; flavor, as high as the *Seckel*, aroma delicious; quality "best;" maturity, November. The *General Taylor* is believed to be a native of Maryland. The tree supposed to be the original one grows near Baltimore, and is about 25 or 30 years old. It presents no evidence of having been worked, and Mr. Rogers assures us that scions taken from suckers, which spring up from its root, have born fruit similar in all respects to that of the parent tree. We commend the variety to the attention of Pomologists.

The following eleven kinds were not in condition for eating: *Bleeker's Meadow*, *Downton*, *Figue*, *Fortune de Paris*, *Iceworth*, *McLaughlin*, *Ne Plus Meuris*, *Sabine d'Hiver*, *Verte Longue*, *Winter Crassane*, and one unknown.

From Isaac B. Baxter—Very large and exceedingly fine specimens of the *Duchess d'Angoulême* and *Passé Colmar*.

From Charles Kessler, Esq., Reading.—Two varieties of Pears, and five varieties of Apples.

1. *The Reading Pear.*—A desirable winter variety, which has more than once been favorably noticed by us. Not yet mature.

2. *Winter Pear.*—Medium size, roundish, fair yellow; for the table, scarcely "good" in quality.

3. *Apple*, grown by Mr. William Young, of Reading. Size, large, three and five-eighths inches long by three and three-eighths broad; form, conical; color, beautifully striped and mottled with red on a yellow ground; stem, three-fourths of an inch long and one-twelfth thick, inserted in a moderately wide, deep, acuminate cavity; calyx, small, closed, set in a narrow, very superficial, wrinkled basin; seed, medium, plump, oval; core, large; flesh, not very juicy; flavor, pleasant; quality "good."

4. *Apple* grown by Mr. Jacob Kurr, Middleburg, Bethel Township, Berks county. Size, above medium, two and seven-eighths inches long by three and five-sixteenths broad; form round oblate, obscurely conical; color, fair yellow white, with crimson blush, containing one or more distinct white spaces or streaks on the blush; stem, five eighths of an inch long and one twelfth thick, inserted in a wide, deep cavity; calyx, small, closed, set in a small, shallow, slightly furrowed basin; seed, dark brown, plump, ovate; flesh, tender, rather dry; flavor, pleasant; quality "good."

5. *Apple* grown near Reading. Size, below medium, two and a half inches long by two and three-fourths broad; form roundish; color, greenish yellow, with a brown blush; stem, variable, from five sixteenths to five eighths of an inch long and one-twelfth thick, inserted in a deep, narrow, acuminate cavity; calyx, large, closed, set in a deep, rather wide, obscurely plaited basin; seed, light brown, broad, flat; flesh, fine texture; flavor, delicately aromatic; quality "very good."

6. *Apple* grown by Samuel Zeiber, Esq., of Reading. Size, below medium, two and a quarter inches long, by two and seven-eighths broad; form, round-oblate; color, red in stripes of different hues, russeted about the base; stem, three-fourths to one inch long and one twelfth thick, inserted in a moderately wide, not very deep, russeted cavity; calyx, small, closed, set in a very small, plaited basin, sometimes almost obsolete; flesh, crisp sub acid; quality "good."

7. *The Yost*,—a fine apple which has been noticed in several of our Reports.

From Wm. V. Pettit, Esq., of Colonnade Row.—A very large specimen of the *Niles Pear*. Size, four inches long by three and three-fourths broad and weighing one and one-fourth pounds; form, roundish, oblong; color, yellow at maturity, with many russet dots; stem, one and one-fourth inches long and one-fifth thick, inserted in a narrow, rather deep, furrowed cavity; calyx, small, closed, set in a deep narrow regular basin; seed, light brown, large, plump, long, acuminate; flesh, somewhat granular, becoming buttery; flavor, not high, but saccharine and pleasant; quality "very good;" maturity, December; an abundant bearer of large and fair fruit. This is a foreign variety, imported from France, by the Hon. Jno. M. Niles, of Hartford, Conn. The imported tree was sent by him some years ago, to his friend Wm. V. Pettit, Esq., of this city. Our attention was first directed to it, by Mrs. Catharine Stanley, of East Hartford—an Honorary and Corresponding member of our Society, and distinguished as well for her moral, social, and intellectual accomplishments, as for her zealous, and untiring devotion to Horticulture. Being unable to recognize the variety, and its true name having been lost, we designated it the *Niles*. Some of the Boston Pomologists, who are more familiar with the *Easter Beurre* than we are, consider it that variety; while others hesitatingly say it is not the *Easter Beurre*. Without giving a decided opinion on this point, we will merely remark that it differs from the specimens we have been in the habit of seeing of the latter, in being more oblong in form, of a more yellow color, having a longer stem, a deeper and more regular basin, and in its earlier period of maturity.

From Mr. Alexander Parker—Two varieties Pears.—One is called a *Native Butter Pear*, and resembles the *Petre*; the specimen is too much decayed for us to form any opinion of its quality. The others, sent for their name, are the *Echaserie*.

From Dr. J. K. Eshelman, Downingtown—Pears for their name.—The specimens sent were not in eating order; but in their configuration and general appearance they resembled the *St. Germain*.

From Mrs. John R. Lattimer—The *Cushing Raspberry*, grown by Hartman Kuhn, Jr., Esq., of this city. Specimens remarkably fine. The autumnal fruit of this twice-bearing variety is even larger than that which ripens in summer, at the usual raspberry season.

From Mr. H. B. Lindley, Athens, Ohio, through Caleb Cope, Esq.—Fine Specimens of an *Apple* for its name. Size,

large, three and five-eighths inches long, by three and five-eighths broad; *form*, oblong-truncate; *color*, red in stripes, with occasionally, russet markings; *stem*, half an inch long, sometimes very thick and fleshy, often rather slender with a fleshy appendage one side, inserted in a narrow, not very deep cavity; *calyx*, medium, partially reflexed, set in a rather shallow, plaited basin; *seed*, small, dark brown, ovate, *core* large; *flesh*, rather dry and mealy, perhaps from being over-ripe; *flavor*, pleasant; *quality* "good." This variety is unknown to us. Whether it is of Western origin, or an Eastern kind so altered by the soil and climate of the West as not to be recognized by us, we are unable to say. The forthcoming pomological work of F. R. Elliott, Esq., which we are anxiously looking for, will no doubt furnish us with much valuable information respecting the fruits of the West, and relieve us of no little of the uncertainty and perplexity that now embarrass us.

From Dr. James S. Rumsey, Fishkill Landing, Dutchess county, New York—A Pear and two varieties of Apples.

1. The Pear resembles the Martin See, and is probably that variety. Formerly the Martin See was much esteemed for drying and other culinary uses, but is now seldom cultivated.

2. *Buels Favorite*, sometimes called Spotted or Grey Pippin, grown by Dr. Rumsey from a scion obtained in Albany. *Size*, full medium, two and a half inches long by three and one-eighth broad; *form*, roundish, *color*, greenish yellow, with a faint fawn cheek; *stem*, three-fourths of an inch long, and slender, inserted in a deep, acuminate, russeted cavity; *calyx*, medium, set in a deep, moderately wide, furrowed basin; *flesh*, a little tough owing probably to the specimen being a little shrivelled; *flavor*, partakes somewhat of that of the Newtown Pippin, though in an inferior degree; *quality* "good." The shrivelled condition of the fruit may have caused us to give this variety less merit than it deserves.

3. An exceedingly beautiful Apple, grown by H. W. Sargent, Esq., Wodenethe, Fishkill Landing. *Size*, large, three inches long by three and a half in width; *form*, broadly conical, obscurely ribbed; *color*, waxen yellow, with a brilliant vermilion cheek; *stem*, three-fourths of an inch long, and slender, inserted in a wide, deep cavity; *calyx*, small, closed, set in a narrow, rather deep, furrowed basin; *core*, large; *seed*, light brown, very small, roundish, terminating abruptly in an acute point; *flesh*, pale yellow, fine texture, tender, moderately juicy; *flavor*, mild and pleasant; *quality* "very good." The tree which bore this fruit is small, has just come into bearing, and is supposed to be some known kind. It is not the White Callville. The fruit bears a considerable resemblance to the Belmont, which, however is rarely so conical. If some friend would have the kindness to send us specimens of the Belmont, we might, possibly, be able to decide whether it is identical with the kind just described. The seed of the latter are peculiar, few apples of its size have so small a seed, and still fewer of its form possess seed so short and roundish. Be it what variety it may, its "very good" quality, fine size, handsome form and brilliant coloring, appropriately adapt it to the table, and render it eminently worthy of extensive cultivation, if it should succeed as well in other localities as at Wodenethe. Scions, we trust, will be freely disseminated by Mr. Sargent and Dr. Rumsey.

Belt's Hybrid.—In noticing this interesting nut in our last report, we stated, from information we had received, that Mr. Joshua Pierce, a skillful nurseryman of Washington, had "succeeded in two instances, in grafting this variety of the English Walnut." Mr. Peirce has since informed us that this statement is partially incorrect. It is true, he succeeded in two instances in grafting the Hybrid nut, however, on the English Walnut, but on the Butternut. Scions were inserted, in various ways, by him, on about a dozen stocks of the English Walnut without union taking place in a single instance. These stocks having been transplanted once a month previously, may, as he intimates, in some measure account for the failure of the operation. In the two cases in which he was successful in working the Hybrid on the Butternut, his mode of grafting differed from any of those in ordinary use, and requires special notice. In our preceding report we alluded to the great want of success experienced by horticulturists in grafting the Walnut, and recommended two ways of obviating the difficulty. Mr. Peirce deserves our cordial thanks for communicating to us a third one, which in his hands has been attended by promising results. And that we might clearly comprehend it, he very kindly sent to a member of the Committee one

of the two trees he had successfully worked. His mode, which is a species of inarching or grafting by approach, is performed in the following manner: A portion of the scion, at a point about two-thirds of the distance from its lower end, is pared away, well down into the alburnum, two inches in length; a corresponding portion of the stock, near its crown, is also removed. The scion and the stock, after being both tongued, are to be accurately adjusted, so that the inner bark of the two shall be in exact apposition. He then binds them firmly together, with a strip of bass matting, and applies a covering of grafting clay; after which the earth is heaped up around it. Before proceeding to the operation, it is of course necessary to remove the earth from about the root of the stock sufficiently far to enable the heel of the scion to penetrate some distance below the surface. Mr. Peirce thinks he removed the top of the stock at the time the graft was inserted, but suggests the propriety of allowing it to remain until complete union between the scion and the stock is firmly established, and then cutting it off close down to the point of connection. The theoretical advantages of the mode of grafting now described, in cases of unusual difficulty, are obvious; and its practical utility is strikingly exemplified in the worked specimen very kindly forwarded to us by Mr. Peirce. Although not entirely novel, the plan had probably never before been resorted to in the case of the Walnut. A proceeding somewhat analogous has been employed in propagating the Camelia, in which case, however the heel of the scion is immersed in a vessel of water, instead of being inserted in the earth.

Beurre Clairgeau.—This large and valuable new foreign Pear, received from Hon. B. V. French, was noticed, and an exterior description of it given in our October ad interim report. The specimen, not being sufficiently mature at that time for testing, was laid aside, and was not cut till the 9th of December, when it was somewhat shrivelled. We now complete the description commenced in October—*Core*, under medium; *seed*, dark brown, small for the size of the fruit, elongated, narrow, plump, with a prominent angle at the obtuse end; *flesh*, yellow-white, buttery, melting; *flavor*, perfumed, and delicious; *quality* "best." The Beurre Clairgeau has been described and figured both in the Horticulturist and in Hovey's Magazine; and its period of maturity is represented to be October and November. The advanced season of the year, December 9th when our specimen was eaten, may have enabled it to develop more completely its fine qualities. To this or to some other auspicious circumstance, may perhaps be attributed the somewhat higher estimate expressed by us of its quality, than that entertained by some other pomologists quite as competent as ourselves to judge of its merits. At any rate, we are fully persuaded that the specimen examined by us, in all respects, justly entitled to the highest grade of excellence.

From the Hon. Geo. W. Woodward, Wilkesbarre, Pa.—*Blackberries*.—Having learned from various sources, that the blackberry grown in the valley of the Wyoming was of unusual size, we were anxious to see specimens of the fruit. This, the kind attention of Judge Woodward, enabled us to do, about sixteen months ago. The specimens then forwarded to us, though in a dried state, were remarkably large; and we hoped, by planting the seed, to obtain varieties still finer but unfortunately none of the seed vegetated. The specimens now received were gathered during the summer of the present year at their usual time of ripening, and put into a bottle of alcohol. The bottle having been placed on its side, the cork came out and the alcohol escaped. The berries, therefore, did not retain their full size, and yet some of them measured one- and one-eighth inches in length. The number of pips contained in each is unusually great: in one berry we counted 113, in another 146. In form, the fruit resembles that of the cultivated high bush variety of Boston. The Blackberry is, no doubt, capable of considerable improvement in size and quality. With a view of ascertaining to what extent this can be accomplished by cultivation, by crossing, and by raising seedlings, we are desirous of obtaining some of the most remarkable kinds from different sections of our country. Judge Woodward has very kindly promised us plants of the one grown in the vicinity of Wilkesbarre. To Mr. C. M. Hovey we are already indebted for the Boston Improved High Bush variety; and to Mr. Wm. R. Prince for the White, and the Parsley-leaved. The New Rochelle from Westchester county New York, we have not yet received; will Mr. Dawson please send us a good-sized plant by express of this variety? The blackberry, like the

raspberry, may be propagated with great ease, and with almost magic like rapidity by division of the root into small sections.

Pennsylvania Horticultural Society.

JANUARY 17, 1854.

The Stated Meeting was held as usual this evening. The President in the chair. The following awards were made:—

Collection of 12 plants—for the best, to Robert Buist; for the second best, to Thomas Meehan, gardener to C. Cope. *Specimen plant*—for the best, to Robt. Buist; for the second best, to Thos. Meehan. *Table design*—for the best; *Basket of cut flowers*—for the best, and for the second best, to Thomas Meehan. A special premium of one dollar was awarded to Isaac B. Baxter, for five specimens of Passe Colmar Pears.

Vegetables—for the best display by an Amateur, to Thos. Meghran, gardener to W. H. Stewart, Torresdale; and special premiums of one dollar each for a dish of Mushrooms and Cucumbers, Godfrey's Surprise, to Thomas Meghran, and for Imperial Sion-house Cucumbers, to Wm. Thompson, gardener to John Tucker.

The Library Committee reported the name of one member delinquent for fines.

The Committee of Finance reported, that having examined the Treasurer's statement, they found it correct, and that the investments were good and interest punctually paid.

A circular, addressed to the Society by a Committee of the Allegheny County Agricultural Society, was read, desiring the co-operation of the Society in procuring the passage of an act by the Legislature declaring the *stealing of growing Fruit, Vegetables, Grain, &c., larceny*.

On motion, the subject was referred to a select committee of three with power to act.

The President announced that he had received from Commodore Perry, of the Japan Expedition, a small package of seeds and a letter, which was read, purporting that the seeds were a present to the Society, and requesting that a portion of the products of each kind might be preserved, and if new and interesting, the credit be given to the Expedition.

On motion, ordered, that the thanks of the Society be tendered to Commodore Perry for the gift, and the seeds be referred to the Committee for the Distribution of Seeds, &c.

Members Elected.—Dr. Morton Stille, Edmund Grundy, Robert Tyler, Edward Shippen, Edward P. Eastwick, and George Lazenby.

Ad Interim Fruit Report for January.

JANUARY 17, 1854.

To the President of the Penna. Horticultural Society:

The Fruit Committee respectfully report that they have received since the December *ad interim* Report, specimens of the following varieties:—

From Charles B. Ott, Pleasant Valley, Bucks county, Pennsylvania.—*The Water Apple*—represented to be a very productive variety. Size, medium, two and a half inches long by two and five-eighths broad; form, oblong inclining to conical; color, red on the greater part of the surface, interspersed with one or more white spaces, and a number of green blotches, greenish yellow about the crown and on the unexposed portion; stem, half an inch long and one-twelfth thick, inserted into a rather narrow deep, acuminate cavity; calyx, medium, closed, set in a moderately wide, plaited, sometimes shallow, occasionally deep basin; seed, medium, brown, ovate; flesh, greenish white, fine texture, remarkably tender, juicy; flavor, sprightly, with an agreeable aroma; quality, "very good."

From Persifer F. Frazer, of this city, through J. J. Vanderkemp.—*Seed of the Salmon Berry*, from Bodega, California, and *dried Raspberries* from Sitka, in Russian America, near the fifty-seventh degree of north latitude. More than

a year ago we learned from a reliable quarter that a Raspberry of very large size and fine flavor had been found growing in California. Repeated attempts were made by us to obtain the variety, without, however, succeeding in accomplishing our object. We were, therefore, highly gratified at the unexpected receipt, through Mr. Vanderkemp, not only of the seed of the California Raspberry, but also the dried berries of a variety from the island of Sitka, high up on the Pacific coast, and upwards of nine hundred miles northwest of the mouth of the Columbia river. In an interesting letter to one of the committee, Mr. Frazer gives us the following information in regard to them:—"The dried Raspberries in the package marked 'Sitka' were brought from the Russian colony of that name on the northwest coast of America, by my friend James C. Ward, of San Francisco. He procured them while on a visit there, this last summer, and sent them to me with the hope that the plants might possibly be raised from them. I know nothing of them except that they are the Raspberry of the place. The seeds, in the other package, are those of a large buff-colored Raspberry, known in the country as the Salmon Berry. I found it growing, apparently wild, among nettles at Bodega, a small seaport about fifty miles northwest from San Francisco. Bodega is the port of a tract of country, which was (for a length of time previous to the taking possession of the country by the United States) in the occupation of the Russians, who leased it for the purpose of supplying their colonies with grain. The Raspberries were found on the shore of the harbor, under the projection of high cliffs, which sheltered them from the northwest winds. As they were in the immediate vicinity of the company's warehouses, it is very possible that they had been planted there by the Russians, though I could not perceive any traces of cultivation. They grow, if I recollect aright, on the talus of the cliffs, and so completely mixed in with high nettles that I found it very difficult to procure them. The plants were from five to six feet in height, and the berries of at least twice the volume of the Antwerp, and between a buff and a salmon color, with a very delicate flavor, which reminded me of that of our carnation cherries. An attempt was made by General Persifer F. Smith to send the cuttings home, but they died on the passage across the Isthmus of Panama. On speaking on the subject to Mrs. Dr. Rhea Barton, she gave me directions for having the seeds prepared, and requested that I would procure some for her. These directions were forwarded to my friend Mr. Ward, and a few days since I received the packages which Mr. Vanderkemp placed in your hands. * * * * * In case of success I shall ask for some of the plants for Mrs. Barton, General Persifer F. Smith and Mr. Vanderkemp—the two former are absent from the city, and both desired me to procure the seed for them." The berries from Sitka, though thoroughly dried, were quite large; we counted the seeds in two of them, and found sixty-eight in one, and seventy-two in the other.

United States Agricultural Society.

The Second Annual Meeting of the UNITED STATES AGRICULTURAL SOCIETY, will be held at WASHINGTON, D. C., on Wednesday, February 22d, 1854.

Among the objects of the Association are the following:—

The acquisition and dissemination of the best experience in the Science of Agriculture;—

The union of the men who desire to advance to its legitimate rank, this most important of all human pursuits;—and

The increase and extension throughout our country of a more cordial spirit of intercourse between the friends of Agriculture, by whose countenance and co-operation this Society shall be elevated to a position of honor and usefulness worthy of its national character.

Business of importance will come before the meeting. A new election of officers is to be made, and in which every State and Territory is to be represented.

Applications will be laid before the Society for the

holding of National Exhibitions in different parts of the Union.

Delegations are respectfully solicited from all the Agricultural Societies in the country, and the attendance of all Agriculturists, who may find it convenient to honor the occasion with their presence.

MARSHALL P. WILDER, President.

WILLIAM S. KING, Rec. Secretary.

January, 1854.

National Fair at Springfield, Mass.

The success of the grand horse exhibition at this place, last fall, has stimulated the good people thereabouts to attempt a grand national cattle show, to take place on the first Tuesday, Wednesday and Thursday of September, 1854. The premiums will amount to \$5,000, and be open to all the world. Ample and beautiful grounds will be prepared, and arrangements made to accommodate all who come without extra charges.

To attempt any thing of this kind, with our Yankee friends, is to *succeed*. They don't go into such measures without determining this point first, and erasing the word *fail* out of their vocabulary, and we therefore presume the national cattle show is a fixed fact.

Largest Cabbage in the World.

We received recently, says the *Alta*, a San Francisco paper, from the garden of Mr. John Aldersey on the mission road, the largest cabbage that, probably, the earth ever produced—certainly the largest of which there is any account. This remarkable plant, standing in its natural position, measures three feet and one inch in diameter, including the loose leaves surrounding the head. The head itself, which is very solid and perfectly white, measures thirteen inches in diameter, and the whole weighs thirty-four pounds.

PERUVIAN GUANO.—The Government of Peru lately appointed a committee to investigate and report the amount of guano still remaining on the Chincha islands, estimate the stock at twenty-five millions of tons. If this be so, it would take 500 cargoes annually of 600 tons each three quarters of a century to clear these islands!

Large Field Crops.

At the Annual Agricultural Fair, held in Niagara county, New York, on the 13th of October last, the following premiums were awarded on Grain Crops:

Isaac C. Lockwood drew a premium of \$10 on 20 acres of Winter Wheat, yielding 46 bushels 10 pounds to the acre. Morgan Van Wagner, on 19 acres, yielding 41 bushels to the acre, a premium of \$8. Enoch Fitch, on 10 acres, yielding 40 bushels and 2 pounds, a premium of \$5. Peter W. McCollum, on 5 acres, yielding 50 bushels, a premium of \$5. J. W. Babcock, on $3\frac{1}{2}$ acres of Oats, yielding 60 bushels to the acre, a premium of \$5.

DAVID TAGGART, Esq., of Northumberland county, has been invited to deliver an address before the New York State Agricultural Society, to meet at Albany on the 8th of February next.

PATENT OFFICE REPORTS.

GRAIN AND GRASS HARVESTERS—By J. E. Brown & S. L. Bartlett, of Woonsocket, R. I.: We claim the double bladed or two edged knife, or its equivalent, so constructed as to cut in each direction, as it is vibrating, as described.

Second, the knife in combination with the curves and teeth.

Third, we claim the mode of operating the double-bladed knives or cutters, by means of the rack and pinions, as set forth.

Fourth, we claim the arrangement of the devices which communicates the motion from the internal part of the driving wheel to the rack, as set forth.

Fifth, the gearing, arranged and combined so as to work within the main wheel, and operate the crank upon the axle of the main wheel, as described.

MANURE AND OTHER FORKS—By B. H. Franklin, of Worcester, Mass.: I claim making the tines of forks three sides, as described, whereby I diminish the weight, retain the strength, improve the holding properties of the fork, and at the same time prevent its choking, and cheapen the article.

GRAIN AND GRASS HARVESTERS—By Uriah H. Goble, of Springfield, Ohio: I claim, first, making the ground or driving wheel with a conical tread to counteract the tendency of the machine to run into the uncut grain to prevent the side draught, and to better balance the machine by throwing the heft to the outside or from the uncut grain, as described.

I also claim so hinging the platform immediately in rear of the cutters, and giving it a rising and falling motion, by means of the cam and lever, or their equivalents, when said motions are made to conform to the motions of the reel or rake, to retain and then facilitate the discharge of the cut grain from the platform in bunches, as described.

SHOES TO WINCOWERS—By Joseph & James Montgomery, of Lancaster, Pa.: We claim the construction and arrangement of the ordinary shoe, so as to receive an extra shoe and door, as set forth.

MANURE CRUSHERS AND SOWERS—By T. F. Nelson, of Clark county, Va.: I claim the combination of the fluted or toothed cylinders, with the toothed shaft operating as described, for the purpose of grinding and distributing guano or other pulverised manures, as set forth, the whole being in combination with any ordinary seed planter.

GRAIN AND GRASS HARVESTERS—By Wm. & Thomas Schnebey, of New York City: We claim the method of arranging the gear in combination with the movable plate, to which the crank pin is fastened, said movable plate being located on the flange of the second pinion, by which method we can increase or diminish the lateral distance of the motion of the cutters, as described.

We claim the method of constructing the hollow guard fingers, each one being a single piece, only substantially as described.

We claim the self-acting rake with jointed fingers, in combination with the guide rods upon which it is made to slide back and forth, as described.

POWER RAKES—By H. N. Tripp, of Alfred, Me.: I claim combining with the rake head and shafts a set of levers and back draught bars, as set forth, so that by the conjoint action of the forward draught of the horse and back draught of the attendant, the rake may be either turned up or off the ground, and supported on its wheels, or turned down so as to bring its teeth in contact with the ground, as specified.

CANDLE MOULD MACHINES—By D. E. & M. Battershall, of Troy, N. Y.: We claim, first, the arrangement for cutting, centering, and holding the wicks at one and the same operation, by means of the cutter, guide plate, jaws, springs, tumblers, crank arms, connecting rods, horizontal sliding bar, pawl, eccentric plate, and vertical sliding bar, the respective parts being arranged and operating as described.

Secondly, we claim the wick tightener, constructed and operating as described.

CARRIAGES WITH SHIFTING SEATS—By Godfrey Simon, of Reading, Pa. Patented in England, March 4, 1853: I claim the manner described of constructing, arranging and applying or using the removable front seat, foot board and dashboard, and of adapting the body of the carriage thereto, as described.

HORSE-SHOE—By Wm. H. Towers, of Philadelphia, Pa.: I do not claim the employment of flanges or lips on the up-

per surface of the shoe, but I claim constructing the shoe with a detached flange, secured as described, so that the side and front flanges shall firmly fasten the shoe to the hoof, as set forth.

SHINGLE MACHINE—By B. F. Stevens & Walter Kidder, of Lowell, Mass.: We claim, first, the combination of the movable side bars with the shaving knives and cams, arranged as set forth.

Second, the combination of the sliding arms carrying the driving knife with the driver, as set forth.

SELF-ACTING MACHINES FOR WEIGHING GRAIN—By I. D. Garlick, of Lyons, N. Y.: I claim the auxiliary gate, when combined with the loaded bent lever and cam catch, or their equivalents, which act upon the steelyard so as to lift shortly before the weight of grain in the weighing box becomes sufficient to raise it, as set forth.

I also claim suspending the weighing box in the frame by means of a rack pinion and loaded lever, whereby it is made to slide up and down within said frame at each weighing, and to produce the movements as described.

I also claim the arrangement and combination of the bent cam lever, the pin on the frame, and the curved elastic rod connecting said lever with the lid, for the purpose of opening the lid at each descent of the weighing box within the frame, and again closing it by the ascent thereof, as set forth.

I also claim the suspended hopper, in combination with the vibrating lever, arranged as set forth.

I also claim the combination of the notches and catch wire, with the elastic shoe and pin of the lever, arranged in such a manner that said lever is successively set free from the notch Q, catch, and notch R, respectively, by the ascent, descent, and second ascent of the steelyard, as set forth.

I also claim the adjustable cam catch, as described, in combination with the shouldered rod, for the purpose set forth.

I also claim the slotted rod, in combination with the vibratory lever, when arranged in such a manner that the ascent of the lever will raise the gate, and hook the catch over the pin of the steelyard, but will not disturb the gate in its descent, as described.

I also claim the arrangement and combination of the adjustable notched and perforated disc, the coupling pins, index, arm, and stop, as set forth.

PICK AXES—By J. C. Conklin, of Peekskill, N. Y., (assignor to D. Tompkins, of North Haverstraw, N. Y., and D. F. Tompkins, of New York City): I do not claim extending the main bar through the centre of the eye of the pick axe, neither do I claim the braces which secure the handle; but I claim the combination of the said bar with the braces and the loops, as set forth.

HARVESTERS AND BINDERS—By J. E. Nesen, of Buffalo, N. Y. Patented in England, Aug. 1853: I do not claim the slotted fingers, nor the teeth, nor do I claim an endless belt, irrespective of the peculiar motion communicated to it.

I claim, first, giving the endless apron an intermitting motion, for the purpose of carrying the grain to the binding hooks, at intervals and in proper quantity, said motion being communicated to the apron, by means of a belt shipper worked automatically, from some moving portion of the machine, as described.

Second, I claim gathering the grain in bundles or sheafs, by means of the binding hooks, or their equivalents, said binding hook being arranged and operated as shown—motion being communicated to them by means of the reciprocating bars, as described.

Third, I claim the binding hooks in combination with the endless intermitting moving apron, the hooks and apron being constructed, arranged, and operated as set forth.

CORN SHELTERS—By Banford Gilbert, of Pittsburgh, Pa.: I claim constructing the teeth on the cylinder and concave bed of the peculiar form described, and arranging the same in curved rows, so that during the revolution of the cylinder the concavity of the rows of teeth on the cylinder meets the concavity of the rows of teeth on the concave bed, in combination with the screen or separator and the self-adjusting concave, as set forth.

CORN PLANTERS—By Samuel Malone, of Tremont, Ill.: I claim the peculiar construction of the horizontal slide, made reversible from end to end for the purpose of varying the quantity of seed planted, as set forth.

MACHINERY FOR SAWING LOGS—By Oren Stoddard, of

Busti, N. Y.: I claim, first, the means set forth for elevating the saw when it has cut through the log by means of the ratchet, pawl, lever, and parts attached, in combination with the retaining latch, operated upon by the log, when it has been forced forward the required amount to disengage said latch, and allow the saw to operate upon the log, as set forth.

Second, I claim forcing the log along the required amount for each section to be sawn off by means of the roller operated on by the lever and pawl, when said pawl is brought into action by the lever, as specified.

Butter and Cheese.

We give below for the benefit of a large portion of our readers, engaged in dairying, the following abstract of a report on butter and cheese, from the "Rhode Island Society for the encouragement of Domestic Industry."

We may also remark that in this section, which supplies a large portion of the best butter of Philadelphia market, it is a common practice with many to keep a pan of sour milk on hand, a small quantity of which is put into the pan of new milk, with the view to induce its becoming sour *quickly*. It is considered that *all* the cream does not rise till this souring takes place, and the sooner afterwards the skimming is done the better. In cool weather especially, where the milk has to stand a long time, to effect this, the butter is sure to be rancid.

From these experiments it is shown that to obtain the best of sweet butter that will keep for a greater length of time than any other without being rancid, we must churn sweet cream, that if the butter-milk is valuable in market, and the butter can be disposed of soon after it is made, there will be the greatest gain by churning the sour milk and cream together that by scalding the milk and then taking off the cream, the milk is best for market—although the yield of butter is greatest, and the flavor good, it must be put in market direct from the churn and consumed without delay or it becomes rancid and worthless;—that in proportion to the quantity of butter produced from the cream of a given measure of milk, reference being had to the length of time the cream is suffered to remain upon it, will be its liability to become soonest rancid;—that the excess of weight as exhibited above is to be attributed in a great measure to the absorption and combination of casein (curd) with the oleaginous (oily) portions of the cream;—that the prevalence of casein, although it is not objectionable by imparting any unpleasant flavor while new, renders the butter of less value, as it soon grows rancid; and for the further reason that it is used, necessarily, more profusely than new butter, which has less curd in it. It has been fully proved that milk contains on an average only one per cent more curd than butter.

Dumas says, "that the facility with which butter becomes rancid, depends on the presence of casein (curd,) from which it is necessary it should be separated in order to its preservation.

This can be effected by fusion (melting.) For exportation to hot climates, or for the purpose of preserving early-made butter sweet through the heat of summer for winter's use it should be clarified before salting or much working. For this purpose it is put into a lipped vessel and placed in another of water, which is to be gradually heated, till the butter is melted. Care must be taken not to over-heat it; it must be kept melted until the curd and butter-milk have settled; the clear melted butter is then poured off from the sediment into small white kegs, containing from twenty to thirty pounds each, or into maple cannipails of Shaker manufacture, for family use. When sufficiently cooled, and before it hardens, it may be salted with less than half an ounce of fine rock salt to the pound, but as it is difficult to incorporate the salt well, the salt may be omitted and the butter will keep perfectly sweet. What butter remains in the vessel will rise to the top, and harden like tallow; when taken off the amount of curd and butter-milk will appear. You will then have the pure article, equal to the best of table butter for all the purposes to which (as we get it) or drawn butter is applied—it is perfect for shortening—melt

it in milk instead of water. It is not suitable to spread cold on bread.

One of your committee in the warm season last year, took seventeen pounds of sweet salted lump butter and proceeded as above directed. What settled at the bottom after melting, was composed of two ounces of limpid whey, two ounces of fine salt, and twelve ounces of curd, in all one pound. Had this curd not been extracted, the whole long before this (2d of Feb.) would probably have been rancid. The experiment proved perfectly satisfactory, and is recommended to the public. Store-keepers back in the country who take in butter, would find it to their account by putting it in practice, thereby diminishing the amount of "grease-butter" sent to market.

Adulteration of Milk, from *Bowman's Medical Chemistry*, as published in the *Providence Journal*, some time since:—"We have no chemical means of ascertaining whether water has been fraudulently added to milk; the only effect being to dilute it and render it of poorer quality. A knowledge of the specific gravity cannot here be made available, since the abstraction of cream, which has a lower specific gravity than milk, may be made to neutralize the effect produced by the addition of water,—the tendency of the removal of the cream being to raise the specific gravity, or weight of the milk, and that of the addition of water to lower it. A specimen of milk, therefore, which has been impoverished by the abstraction of cream, and still further weakened by the addition of water, may be made to possess the same specific gravity, or weight, as it had when taken from the can."

The average product of cow's milk is 15 per cent. of cream by the lactometer.

It is of quite as much importance to ascertain the average product of curd; but this can only be done by actual experiment, as no instrument will show it. Liebig says the nutriment in milk depends on the amount of curd it contains; and not on the amount of butter. An experiment was tried by feeding a dog with butter only; he became very fat, his hair was saturated with grease, and he died at the end of thirty days. Those who were opposed to this view of the subject repeated the experiment and the dog survived, but this result was attributed to the great amount of casein (curd) contained in the butter.

If the object of a Dairy be to make Cheese, cows should be bred and selected that give milk rich with curd; if the object be Butter, those that give a light milk will produce most; but if the object being the greatest profit in selling milk, such cows should be selected as will give the most milk and from which the least butter and cheese can be made from a given quantity.

It is a remark often made, and with truth, by those who have the care of dairies, that there are individuals among their cows, whose milk yields little or no cream, but abounds in curd, but is not lacking in cream. The perfection of milk is the union of these two desirable properties, and its greatest defect in the absence of both.

A cubic foot of pure water weighs 1000 ounces avoirdupois very nearly.

The weight of all substances, except the gasses, (all being brought to one temperature,) is, in relation to that of pure water, whose specific gravity (weight) is represented, by unity, or one, thus:

	1.000
Butter is lighter.....	0.942
Cream ".....	0.980
New milk average is heavier.....	1.028
Skim milk ".....	1.088

In a former communication on the subject of Butter making, we disapproved of the practice of adding water to the cream, and of washing the butter, to rid it of its butter-milk. The carbonate of lime, found in water, causes the incrustation, which forms on the inside of utensils in which it is boiled. Butter absorbs the lime and magnesia, present in salt and in water, when it comes in contact with them; it has an injurious effect on its quality and preservation. It is therefore in all cases safest not to wash it, even if the water be pure, it will in a measure destroy its fine fragrance and flavor.

The use of pure salt cannot be too often recommended to those who have dairies in charge. More than a million of dollars can be annually saved to our farmers in this country by attention to this point. No one denies that good pure salt is made at our salt springs by solar evaporation, if taken from the first pan where all the crystals are perfect-

ly square; but this salt comes to the consumer with various degrees of adulteration; and is therefore cheap, as to the first cost. After the square crystals of pure salt have ceased to form; then, by further evaporation the salts of magnesia and glaubers salts begin to show long-needle shaped crystals very bitter to the taste; easily dissolved and always found moist in damp weather. It will not preserve fish or meat, and when used for butter, will dissolve and run from it like water. Whereas rock salt gives it firmness, which facilitates the extraction of butter-milk and preserves it sweet. Many bags marked rock salt, have been filled more than once; and many others never came in contact with it. Let the farmers club together, and send to a sea-port and get the best of rock salt, sift out the fine, wash and dry the lumps, and have it ground at any grist mill in the neighborhood, as our fathers did, before the introduction of the very improved fine Liverpool bag or blown salt.

STEPHEN H. SMITH.

For the committee.

Selected for the Farm Journal.

WORSTED WORK.

BY MRS. ABDY.

O! talk not of it lightly in tone of scornful mirth,
It brings to me glad visions of the calm and quiet hearth,
Of seasons of retirement from the world's obtrusive eyes,
Of freedom from absorbing toil, of dear domestic ties.

When I view the tasteful ottoman, or richly fancied screen,

I ever picture to my mind, a sweet, and social scene,
A group of sister's, young and fair, rejoicing to unite,
In bringing every flower, and vivid fruit to light.

Perehance, in time they separate, the world's false joys they share;

And half forget their Father's house, and all the dear ones there;

Then on a brief and passing stay, how tenderly their gaze

Shall rest upon the common work of girlhood's sunny days!

Perehance dissensions have prevailed, cold envy may have cast

A bleak and withering blight upon the peaceful past,
Then may not these mute witnesses, such changeful love condemn,

Bearing a record in each leaf, a lesson in each stem.

May they not think in sadness on the swiftly fleeting hour,

When like Hernia and her gentle friend, each busied on one flower,

They warbled some familiar air and plied their skillful art.

Owning a happy unison of voice, and hand and heart.

Perehance some fragile girl, who shared that cheerful task of love,

Hath left that cheerful home on earth and gone to rest above,

Then how her fond surviving friends shall gaze in pensive thought,

On every graceful tendrill that her fairy fingers wrought.

How shall they scan the chaplets, that she fancifully planned.

To trace the individual buds, that grew beneath her hand,
Feeling in softened grief, that she who once these flowers

portrayed,
Is taken from a world of change, where "all that's bright

must fade."

The scoffer may in vain pursuits, and wasted moments jest;

Alas! the highly gifted mind, is most in need of rest;
Exhausted, faint, and overwrought, the thoughts may pas-

sive lie,
While actively the fingers their ingenious duty ply.

There is language in the blossoms of the meadows, and the bowers.

To me, the lifeless canvass has its own sweet speech of flowers;

Its gay, and glowing garlands have a moral in their bloom,
They tell of household quiet, of the tranquil joys of home.

12th mo. 1853.

Farmers' Wives in England.

We copy the following from C. P. Holcomb's address at the exhibition of the Maryland State Agricultural Society:

As showing the interest English Ladies take in Agriculture, I cannot but relate a casual interview I chanced to have with an English lady, in going up in the express train from London to York. Her husband had bought a book at the stand as we were about starting, and remarked to her that "it was one of her favorite American authors—Hawthorn." I casually observed, "I was pleased to see young American authors found admirers with English ladies," when the conversation turned on books and authors. But I said to myself pretty soon, "this is a literary lady—probably her husband is an Editor or Reviewer, and she handles the "scissors" for him; at all events I must retreat from this discussion about authors, modern poets, and poetry. What should a farmer know critically of such things. If I was only in those fields—if the conversation could be made to turn on crops, or cattle, then I should feel quite at home." I finally pointed out a field of wheat, and remarked it was very fine. The lady carefully observing it, said: "Sir, I think it is too thin—a common fault this season, as the seeding was late; those drills," she added, turning to her husband for his confirmation, "cannot be more than ten inches apart, and you see, sir, the ground is not completely covered—twelve, and even fifteen inches is now preferred for the width of drills, and two bushels of seed to the acre will then entirely cover the ground, on good land, so you can hardly distinguish the drills."

If the Goddess of Ceres had appeared with her sheaf, or her cornucopia, I could not have been taken more by surprise. A lady descending on the width of wheat drills, and the quantity of seed!

"I will try her again," said I, "this may be a chance shot," and remarked in reference to a field of ploughed ground we were passing, that it broke up in great lumps, and could hardly be put in good tilth. "We have much clay land like this," she replied, "and formerly it was difficult to cultivate it in a tillage crop, but since the introduction of Croskill's Patent Clod Crusher, they will make the most beautiful tilth on these lands, and which are now regarded as among our best wheat lands."

The conversation turned on cattle; she spoke of the best breeds of cows for the pail, (the Ayrshires and Devons,) told me where the best cheese was made—Cheshire—the best butter—Ireland—where the best milk-maids were to be found—Wales. "Oh!" said I, "I was mistaken: this charming, intelligent woman, acting so natural and unaffected, dressed so neat and so very plain, must be a farmer's wife, and what a help-mate he has in her? She is not an extravagant wife either, not an ornament about her—yes, a single bracelet clasps a fair rounded arm—that's all." The train stopped at York, no sooner had my travelling companions stepped upon the platform, than I noticed they were surrounded by half a dozen servants—men and women—the men in full livery. It turned out to be Sir John and Lady H. This gentleman I learned was one of the largest landed proprietors in Berkshire, and his lady the daughter of a nobleman, a Peeress in her own right; but her title added nothing to her, she was a noble woman without it.

It is a part of our task to excel in Horticulture, in which female taste and skill must aid us. We must embellish our homes; we must make them sweet and pleasant homes. The brave old oaks must be there; the spacious lawn with its green sward—and the fruit orchard, and the shrubbery, and the roses, the vines festooned and trained about the walls and balconies—even the birds will think that a sweet home, and will come and sing and make melody, as though they would "teach the art to imitative man."

Such a home will be entailed to our children, and to their children—not by statute laws of entail, but by a higher law, the law of nature—through the force of sympathy—the associations of childhood.

"The Orchard, the Meadow, the deep tangled wild wood, And every loved spot which our infancy knew." These will hold them to it—these early memories, which we should take care to deepen with a binding and indissoluble tie.

The Doom of the Plow.

The following extraordinary article from the *London Times* and coming from such a source as Mr. Mechi, at least demands silence for a time, until the invention is fairly tested:

Sir:—A calm and rigid investigation and computation, have convinced me that the doom of the plow, as an instrument of culture is sealed, and that the rotary forking, or as it is wrongly called, digging machine is the only profitable cultivator. Even with six or eight horses, it is cheaper and infinitely more effective than the plow.

Since the trial of implements at my "gathering," I have received from one of our North American colonies, the model of a newly-invented machine, which, by a happy and most simple combination of horse and steam power, will—and I pledge my agricultural reputation for it—not only deeply occupy, and efficiently cultivate and pulverize soil, but at the same time sow the seed and leave all in a finished condition. It will also, by a simple inversion, cut and gather the corn, without any rake or other complication; while both in cultivation and harvesting its operation will be continuous and without stoppage.

The inventor and his machine have, by the government of the district been placed under my charge and guidance. I have, therefore, on public grounds, and considering the vast importance of the invention in a national point of view, advised the inventor to grant licences for its manufacture at a very moderate royalty, to the most eminent agricultural implement makers in various parts of the kingdom, so that our agriculturists may be secured by competition against monopoly or inferiority, while the inventor will benefit in proportion to the appreciating of its merits. I shall call together a meeting of the various implement-makers, and in due time my practical friends of the old school—who must now consider me quite insane—will have an opportunity on my farm of forming their own conclusions.

I may venture to state generally that the implement, when completed, will weigh 20 to 25 cwt., will require a pair of horses, and will represent the power of about 8 to 12, or more, real horses.

I trust I need hardly say that I shall have no pecuniary interest in this matter. The invention has been duly secured.

I am, Sir, your obedient servant,
J. J. MECHE.

Tiptree-hall, Kelvedon, Essex.

The implement for digging will require one man and a boy only including the management of the steam engine; in reaping the same, with the addition of three men to bind as the corn falls into their arms. The men will be carried on the machine.

A friend at our elbow, who has just read the above, reminds us of Horace Greeley's declaration on witnessing the operation of the Errierson hot air engine, that "the age of steam has passed." It has not nevertheless.

WINTER FEED OF BREEDING EWES.—Until two or three weeks preceding lambing, it is only necessary that breeding ewes, like other store sheep, be kept in good plump ordinary condition. Nor are any separate arrangements necessary for them, after that period, in a climate where they obtain succulent food to provide for a proper secretion of milk. In backward seasons in the north, where the grass does not start prior to the lambing time, careful flock masters feed their ewes chopped roots, or roots mixed with oat or pea meal. This is, in my judgment, excellent economy. For the effect of the various esculents on the quantity and quality of the milk, see Liebig's Animal Chemistry.—*Sheep Husbandry.*

A NEW MANURE.—Robert Bryson, Esq., of Cumberland county, about eight miles from Harrisburg, Pa., has been experimenting for the last ten years to make exhausted tan bark available and valuable as manure. Besides his magnificent farm, he likewise carries on the tanning business. Finally, after a great deal of expense, and many failures, he has succeeded in discovering a method of producing from the tan an efficient manure. This is his plan: He has his tan wheeled out on a level piece of ground, and levelled off two or three feet thick. Over this he spreads a layer of two or three inches of lime, and over that again a strata of tan—then a layer of lime, and so on. He lets the bed so prepared remain for two years; at the end of that time he finds a bed of manure, the effects of which upon the land can hardly be surpassed by the richness of its product, and the durable fertility which it imparts.

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Prize Essay on the Hereditary Diseases of Horses.

By FINLAY DUN, JUN., V. S., Lecturer on Materia Medica, &c., at the Edinburgh Veterinary College.

We commence in present number another of the very valuable prize essays, from the Journal of the Royal Agricultural Society of England, several of which have, from time to time, appeared in the Farm Journal.

When bound with the volume, so as to be convenient for reference, we consider them alone worth the amount of the annual subscription. Farming in Great Britain is as much a *science* as an *art*, and has attracted the attention of some of her most scientific and cultivated intellects. Circumstances not so operative in the United States have compelled them to abandon slothful and negligent culture, and in the raising of crops, no less than in the rearing and treatment of animals, an amount of laborious mental effort and close, long continued observation have been bestowed, which have brought their systems to a high degree of perfection, and resulted in great benefits to the working farmer. From the high price of land there, enormous rents and taxes, English farmers cannot afford to receive less from the land than *good management* would make it yield. While "they bleed the soil most freely," great care is also taken to give back such supplies as the crops may require.

The present essay on the "Hereditary Diseases of Horses," will be found equally valuable with any which have preceded it. It will be concluded in our next. A regular veterinary college, for the *education* of persons skilled in the diseases of domestic animals, was established near London in 1792. Here they are instructed like the pupils in our medical schools, by a thorough course of reading, lectures and anatomical demonstrations. We believe there are no such institutions at present in the United States, and we have consequently had to depend on England for our cattle doctors as well as cattle.

Our every day experience of the production and development of plants and animals at once suggests the existence of the great natural law embodied in the familiar saying, "like produces like." In accordance with this law the peculiar properties, characters, and qualities of the parent—whether good or bad, healthy or diseased, external or internal—are transmitted to the offspring, or, in a word, are hereditary. To illustrate this natural law of hereditary transmission, with especial reference to the disease of horses and cattle, is the object of this report, and, in treating of the subject, we shall notice—

I. General hereditary characters, both healthy and diseased.

II. The hereditary diseases of horses.

III. The hereditary diseases of cattle.

I. Many interesting and valuable facts have been record-

ed which prove, beyond all doubt, the hereditary tendency of many of the physical, mental, and moral qualities of man. Parents transmit to their children their own—or, at all events, similar—external forms, similar intellectual capacities, temperaments, dispositions, virtues, and vices, as well as similar tendencies to particular diseases. Certain families are remarkable, during many centuries, for tall and handsome figures, and for a striking similarity of features; whilst others perpetuate a less perfect form, the peculiar deformities of the parent reappearing in the children of each successive generation. For example, the thick upper lip of the members of the imperial house of Austria has been a characteristic of the family for centuries; and every one is familiar with the curious case of the Yorkshire family with their six fingers and toes, which remarkable conformation has continued for several generations; and other analogous cases are recorded. But the hereditary transmission of external form is exemplified, on a more extended scale, by the striking resemblance often observed among the different individuals of a community or race, even where these are exposed to different external agencies. The cases of the Jews and the Gypsies will suggest themselves to every one as most apposite examples. Although exposed for centuries to the powerfully modifying influences of external circumstances of climate, country, association with nations of very different customs and habits, these remarkable races still retain their identity, and remain distinct and peculiar people. But it is not alone their face or figure that remains unaltered, their manners, habits, and customs are also uniform and permanent: a most striking proof of the hereditary transmission of almost every bodily and mental character and quality.

As regards intellectual ability, it is observed that certain races are remarkable for intelligence and aptitude in the acquirement of knowledge, and others for stupidity and narrowness of capacity; that the children of such races, although reared and educated with equal care, always show much difference in intellectual attainments; and that it is only after educating several generations of the less-gifted race that they attain the natural capacity of the more gifted. Both ancient and modern history afford many striking instances of analogous temperaments and dispositions being transmitted from father to son through many generations; of some families remarkable during centuries for virtue, honor, and liberality, and of others notorious during an equally long period for every sort of wickedness, vice, and oppression.

But diseases, as well as physical and mental qualities, descend from parent to children. Many of the most widespread and fatal maladies affecting the human subject are hereditary. Under this category we may include pulmonary consumption, which destroys so many of the inhabitants of these islands, frequently decimating, and sometimes completely sweeping away entire families; scrofula, gout, gravel, and rheumatism, which, like consumption, occur chiefly in predisposed subjects, and in the progeny of those who have themselves suffered from them; most nervous diseases, especially palsy, epilepsy, and insanity, which rarely attack any individual without also affecting many of the same family; and many imperfections of the external senses, as deafness and blindness. These are the most common hereditary diseases incident to man; most of them have their analogies in the lower animals, in which they are also hereditary.

Amongst horses and cattle we find, as in the human sub-

ject, ample illustration of the hereditary tendency of external form, disposition, habit, and disease. The parent transfers to its offspring size, shape, and general conformation similar to its own; and the aphorism "like produces like" is as applicable to faulty and disproportioned as to beautiful and symmetrical form, to diseased and debilitated as to healthy and vigorous constitution, to gentle and tractable as to fiery and indomitable disposition. The size, weight, general appearance, expression of countenance, fleetness, and temper of the horse are all hereditary. Many illustrations might be given of particular families being remarkable during several generations for good or bad points, as for well or ill formed head; for high and well developed, or for low and weak withers; for fine, strong, and well turned, or for coarse, weak, and ill formed limbs. Peculiarities of color often extend through many generations, and are so constant in their transmission as sometimes to form one of the distinctive characteristics of a race. Indeed, most breeds of horses have a prevailing color, to which there are few exceptions. The heavy horses of Lincolnshire, for example, are generally black; the Cleveland, bay; and the wild horses of the plains of Eastern Siberia, dun. Particular markings, also—as white spots on various parts of the body, stars and blazes on the face, one or more white feet or legs—often continue for many generations peculiar to certain families.

The general constitution of an animal is no less hereditary than the external qualities to which we have just alluded. Some stocks of horses, for example, can sustain with impunity an amount of labor which, in others of the same breed, would cause serious bad effects; and the peculiar action, both of medicines, and of morbid causes, is generally observed to be similar in members of the same family. But besides the general constitution of the parents, their special condition at the time of copulation also appears to be to a certain extent transmitted to the offspring; and hence the necessity of selecting for breeding purposes only animals of a strong and healthy constitution, and of using them only when they are in full possession of all their physical energies. For a high state of the physical energies at the time of impregnation is believed to induce a correspondingly great development of physical power in the offspring; and of this we have a curious example in the fact that the Arabs, before bringing the parents together, give them a short gallop, believing that the spirit and fleetness of the progeny is thereby enhanced. On the other hand, we find that even a slight and temporary debility at the time of copulation exercises a marked deteriorating effect upon the spirit and vigor of the offspring, and it is well known that the stock of old stallions is generally weak and spiritless: "*Senes valetudinarum, imbecilles . . . filios vitiosa constitutione gignunt.*"—Fernel.

It must be observed that external circumstances, as diet and temperature, exercise a powerful influence on animal growth and development. With meagre fare and exposure to cold, animals do not reach the average size of their race, and beget stock as much below the average as themselves. In similarly unfavorable circumstances, these again do not reach the size even of their own immediate parents, and procreate a still smaller progeny. Conditions favorable to growth and improvement operate in a similar manner. They improve each individual, and the descendants of each inherit to a greater or less degree the improvements on the parent stock. Animals, then, are altered by circumstances, and transmit to their progeny their altered forms. Thus, after a few generations, the external characters of a breed are often greatly modified, and hence have arisen the permanent varieties of horses and cattle met with in different parts of the kingdom—the tall, heavy horse of the Lincolnshire fens, the light, active, but powerful thorough-bred, the small pony of Shetland—and amongst cattle, the short-horned, the Ayrshire and West Highland breeds, and many others—varieties which have a common origin, but which are now so distinct and permanent that each produces a progeny with its own distinctive characteristics. Thus, even acquired and artificial habits may become hereditary. Certain districts are famous for their trotting horses, and many Irish hunters are remarkable for their peculiar style of leaping. Some years ago the Earls of Morton and Zetland imported from Dongolia, in Upper Egypt, several entire horses, which were remarkable for their high and prancing action. Their progeny, both out of thorough-bred mares and those of the heavier breeds, inherited the action of their sires to such a degree that they had all to be sold as carriage-horses, being

unfit for racing, hunting, or almost any other kind of work. Prichard states, in his "Natural History of Man," that the horses bred on the table-lands of the Cordilleras "are carefully taught a peculiar pace, which is a sort of running amble;" after a few generations this pace becomes a natural one, young untrained horses adopting it without compulsion. But what is still more curious is the fact, that, if these domesticated stallions breed with mares of the wild herds which abound in the surrounding plains, they "become the sires of a race to which the ambling pace is natural and requires no teaching." "The hereditary propensities of the offspring of the Norwegian ponies," says Mr. T. A. Knight, in a paper read before the Royal Society in 1837, "whether full or half bred, are very singular. Their ancestors have been in the habit of obeying the voice of their riders, and not the bridle, and the horsebreakers complain that it is impossible to produce this last habit in the young colts; they are notwithstanding exceedingly docile and obedient when they understand the commands of their master. It is equally difficult to keep them within hedges, owing, perhaps, to the unrestrained liberty to which the race may have been accustomed to in Norway."

Much of what has been already stated concerning the hereditary nature of the external conformation and other qualities of the horse is also applicable to cattle. The progeny of a common stock bear a close resemblance to their parents and to each other in general appearance, length of limb, development of chest, shape of carcass, position and size of the udder, adaptation for the dairy, thickness of skin, and length and texture of the hair. In some of the hot provinces of South America there are cattle "noted for an extremely rare and fine fur. . . . The variety is reproduced or descends in the stock." In the same localities is also found another race with an entirely naked skin, which peculiarity is also hereditary. In our own country, too, there are great differences in the length and texture of the hair of various sorts of cattle—difference which, as in the South American animals, are transmitted to the progeny. The existence or non-existence of horns, their size, shape and curvatures, are characters the hereditary nature of which is generally admitted. But defects and deformities may also become permanent in a stock. We are informed by a friend that he has seen several cattle with a small portion of skin covered with short hair situated on the eye, just within its outer canthus; and that this peculiarity had been traced back for five or six generations, and had occurred in every case in exactly the same spot of the right eye.

We have deemed it advisable thus far to consider the hereditary tendencies of external form, of habit, and of constitution, in order to illustrate more fully and satisfactorily the hereditary tendencies of disease, which we shall now proceed to discuss.

Hereditary diseases exhibit certain eminently characteristic phenomena, some of which we shall here enumerate:

1. They are transmitted by the male as well as by the female parent, and are doubly severe in the offspring of parents both of which have been affected by them.

2. They develop themselves, not only in the immediate progeny of animals affected by them, but also in many subsequent generations:

3. They do not, however, always appear in each generation exactly in the same form. One disease is sometimes substituted for another analogous to it, and this, after some generations, becomes again changed into that to which the breed was originally liable. Thus, stocks of cattle previously subject to phthisis often become affected for several generations with dysentery, to the total exclusion of phthisis, but by and by the dysentery disappears to give place to the phthisis.

4. Hereditary diseases occur to a certain extent independently of external circumstances, appearing under all sorts of management, and being little affected by changes of locality, separation from the diseased stock, or such other causes as modify the production of non-hereditary diseases.

5. They are, however, most certainly and speedily developed in circumstances inimical to general good health, and often occur at certain so-called critical periods of life, when unusual demands on the vital powers take place.

6. They show a striking tendency to modify and absorb into themselves all extraneous diseases. For example, in an animal of a consumptive constitution, pneumonia seldom runs its ordinary course, and, when arrested, often passes into consumption.

7. Hereditary diseases are less effectually treated by ordinary remedies than other diseases. Thus, although an attack of phthisis, rheumatism, or constitutional ophthalmia, may be subdued, and the patient put out of pain and danger, the tendency to the disease will still remain, and be greatly aggravated by each attack.

Hereditary diseases do not necessarily show themselves at birth. In horses and cattle there are only a few which do so. The scrofulous diathesis sometimes presents itself in large collections of pus, which occasionally prove fatal within a few days after birth; and symptoms of hydro-cephalus, rickets, and occasionally rheumatism—all hereditary complaints—are also sometimes found present at that early period. But most hereditary diseases develop themselves only some considerable period after birth, and the inherent tendency may even remain latent during many years. Thus, in man, gout and gravel do not usually develop themselves until after the meridian of life, and in horses and cattle the tendency to consumption, scrofula, and rheumatism may remain dormant for many years. Nay, more; diseases of an undoubtedly hereditary nature may remain latent even for a generation or two, and afterwards re-appear with all their wonted severity: "Silente saepe morbo in genitore, dum ex ævo derivatur in nepotem;" and such cases are not of unfrequent occurrence, and are certainly not at all incompatible with the hereditary nature of a disease. They may be satisfactorily explained in various ways. The morbid tendency may be so slight as not to interfere with health, or the animal may have been reared in circumstances where the exciting causes of the disease have been avoided. But in these cases, where a hereditary disease disappears for a generation or two, the tendency to the disease and the conditions in which that tendency consists are still transmitted, as is obvious from the fact, that the disease develops itself in the descendants with all the characters of a hereditary nature. It requires, indeed, many generations, and a careful selection of parents, to eradicate from a stock a hereditary tendency to disease, and for a considerable time after it has been got rid of in the majority of the progeny, isolated individuals appear, which, in the phraseology of breeders, "call back" to their more remote progenitors, and possess, like them, an unusual tendency to disease.

There are few diseases which invariably owe their development to hereditary causes. Diseases usually regarded as hereditary are sometimes produced accidentally, and without the intervention of any hereditary tendency. Rheumatism, which often owes its existence to an inherent rheumatic diathesis, may be developed in most animals by continued exposure to the ordinary exciting causes of the malady. Specific or deep-seated ophthalmia, although generally dependent on a constitutional predisposition, sometimes destroys the eyesight of animals in whose pedigree no such disease has been known; and even consumption and scrofula—diseases easily traceable in the vast majority of cases to hereditary predisposition—are occasionally developed in previously healthy constitutions by the conjoined agency of bad feeding, cold, and neglect. From this it is obvious that the production of any disease by extraneous causes is not at all incompatible with its being in other cases decidedly hereditary. Such cases as we have just adduced only serve to show that the same disease is not always referable to the same causes, and that causes very different in their nature occasionally produce the same effects.

Diseases accidentally produced during the lifetime of an individual occasionally become hereditary, but not usually so. Blindness produced by injury or ordinary external causes, and roaring produced by phlebitis, or even by bronchitis, are seldom hereditary; and it appears as a general rule, admitting, however, of some exceptions, that a local injury or disease produced by accidental causes is not likely to be hereditary, although a generally deteriorated state of health, however produced, is very apt to be so.

There are various maladies which, from their simulating some of the characters of hereditary diseases, have been thought by many to be truly hereditary. Abortion affords an apt illustration of such a mistake. This disorder frequently prevails in a stock for a long series of years, and sometimes even during several generations. But although corresponding in these respects to many hereditary diseases, it differs essentially from them, inasmuch as it attacks all animals alike when exposed to the same exciting causes, shows no special preference for those bred from a stock in which abortion has been prevalent, does not affect those removed to a distance from the locality in which the disease

prevails, and may sometimes be effectually and immediately arrested by a radical change in the system of management. These conditions are quite sufficient to disprove the hereditary nature of abortion; and when such conditions occur in connexion with any other disease, they may be safely accepted as ample evidence of its being produced by external or extraneous circumstances, independently altogether of any hereditary predisposition.

There are some maladies in which it is comparatively easy to trace the connexion between conformation and disease. In the horse certain sorts of limbs notoriously predispose to certain diseases. Thus, bone spavins are most usually seen where there is a disproportion in the size of the limb above and below the hock; curbs, where the os calcis is small and the hock straight; strains of the tendons of the fore-leg, where the limb is round and the tendons and ligaments confined at the knee; and navicular disease, where the chest is narrow and the toes turned out. Amongst horses so formed, these diseases are unusually common, and are developed by causes which would be quite inadequate to produce them in animals of more perfect conformation. But it appears to us that internal and constitutional hereditary diseases also depend upon the altered conformation or texture of the parts specially affected, or upon some disturbance of the relation which should subsist between the different constituents of these parts. This abnormal state of the internal parts is seldom within the limits of our means of observation or investigation, but its existence in animals having a hereditary predisposition to disease cannot, we think, be doubted, as we shall now endeavor to show. The ground of our reasoning rests chiefly on the analogy which subsists in all respects between external and internal parts. The same law which regulates the hereditary transmission of form, texture, and relation of external and visible parts, also operates with equal force in regard to the form, texture, and relations betwixt the components of parts internal, and, it may be, inaccessible to ordinary powers of investigation. Then, if, as we have shown, external hereditary diseases, such as lameness, are traceable to external hereditary peculiarities of conformation, we do not think it pushing our analogy too far to assert that, in like manner, internal hereditary diseases must, in great part at least, depend upon some inherent hereditary peculiarity of the internal parts affected. The following remarks will, we think, tend to support our hypothesis. Particular conditions of the blood often become hereditary, and, if an excess of the red globules of the blood be hereditary, the disease of plethora to which that excess gives rise will also become hereditary. We have a striking example of this in many of the improved breeds of cattle, in which is conjoined a remarkable excess of the red globules of the blood with a highly plethoric habit of body. If the eye be predisposed to deep-seated ophthalmia, a slight exposure to cold, or even an error in diet, will be sufficient to induce the disease. But before an acute attack there is seldom noticeable in the eye any alteration of texture or of function indicating the existence of such a tendency. That such a tendency does, however, exist there can be no doubt, and we think that it must consist in an altered condition of some of the deeply-seated parts of the eye. Our conclusion is, therefore, that every hereditary disease depends upon some hereditary abnormal condition predisposing to that disease. This abnormal condition may be either local or general. It may affect the form, structure, texture, quantitative or qualitative composition either of solids or fluids. It may constitute so powerful a predisponent to disease as speedily to cause impairment of health, or it may be so slight, that without the co-operation of exciting causes it will fail to produce any apparent disturbance of the general health. But animals with such inherent defects are always predisposed to disease. Influences which are harmless in others often produces in them serious and irremediable disease. Thus, ordinary work causes spavins or curbs in horses with badly formed hocks; a slight exposure to cold brings on phthisis in a cow of consumptive diathesis; simple engorgement of the stomach causes an attack of ophthalmia in a subject predisposed to it. Hence, an animal having a hereditary tendency to disease labors under many disadvantages, and his health, and even his life, are in constant jeopardy. He is always liable to suffer from slight and temporary errors in diet and regimen, and bears about with him from birth an ill-fated inheritance which affords a congenial soil for the reception and development of disease, and is transmitted to his posterity unimpaired in power, and undiminished in extent.

[TO BE CONTINUED.]

Western Agriculture—Corn Cobs.

I made a flying visit to our old friend Henry L. Ellsworth of Patent Office memory, one day last month. He is now a resident of La Fayette, Indiana, where he is farming pretty largely on the Prairie, about seven miles out, on which he has a thousand acres of Indian corn in one field. The uncommon high prices of corn this summer has been the moving many an extra acre of it in the Wabash Valley, where, if it ripens well, it will tell a pleasing tale, not only to the cultivators, but to the starving millions of Europe.

Mr. Ellsworth is as full of enthusiasm as ever, and no less busy than he was in his office at Washington. He is an owner and manager of a vast amount of land, which he is selling, leasing, and improving, and which, together with all the business operations that he is carrying on, keeps his office crowded with the multitudes who deal with him. Yet he finds time to be continually trying some experiments, for the benefit of the agricultural community.

I saw six pigs in as many pens, just big enough to hold each occupant without exercise, which he was feeding on corn in the ear, corn ground, but fed raw, and corn-meal made into mush—two upon each kind. The pigs were all alike in age, breed, size and weight, when commenced with, and after being fed a certain time with carefully weighed quantities of food, they are re-weighed and weights noted, and those which had been fed upon one kind, are changed to another and so on; and when the experiment is finished, he assured me he would publish the table. The experiment thus far is very largely in favor of the mush, bidding fair to produce enough to pay toll and trouble for grinding, as well as for cooking, and leave a profit. The number of pounds of good thick mush, that one hundred pounds of meal, well worked, will make, is astonishing to any one who has never thought much upon the subject. It will not fall much if any short of *six hundred pounds*. Mr. Ellsworth's kettle holds just fourteen of meal at a charge, and several accurate weighings give over eighty pounds when well cooked, and I saw myself that no more water was used than the meal would absorb. But it must be cooked—not merely scalded. A little salt is added, and occasionally a little sulphur.

Mr. Ellsworth assured me that he proved the mooted point of nutritive food in corn-cobs. He says, "*hogs will live and thrive upon well ground cob meal alone!*" At first they did not take hold. I then added a small quantity of meal of the grain principally of the grain, and then they ate the whole, and did well. I had great difficulty in getting the cobs ground. Millers are so well satisfied in their own minds that cobs are good for nothing, that they are not willing to let the experiment be tried whether they are nourishing or not. I am satisfied that twenty-five pounds of corn meal added to one hundred pounds of cob-meal, is more valuable for feed for *growing* stock, than seventy-five pounds of corn-meal alone." Such is the language of Mr. Ellsworth. Experiments of this kind should be further tried. One-fourth of the weight of bushel of ears of corn, nature never intended should be thrown away, and cobs upon large corn-farms in the West are literally thrown away. They are neither used for food, fuel, feed, nor manure; for the latter is considered a nuisance.

After my visit to Mr. Ellsworth, I met with our old friend, Mr. Colt, of New Jersey, at the great Chicago Convention tion. Owing to the vast crowd of people and business, I did not have the opportunity that I wished to glean intelligence from so enterprising a Jersey farmer as he is well known to be; but as a matter of course, the things that our minds most did dwell upon were discussed over the dinner table, where I mentioned my conversation with Mr. Ellsworth, upon the subject of corn-cobs, and my belief that they would be highly advantageous to feed in small quantities to all kinds of stock, solely on account of the alkaline properties that many an ancient dame knows that they possess. For oft she has made cob-ley when pearl-sh was high; and even if a little should be mixed in human food it would not injure it; and in the stomach of fattening hogs particularly, it would prove an excellent corrector of acidity. This idea was nothing new to so inquiring a mind as that of Mr. C., and he told me that he had tendered a donation of one hundred dollars to the American Institute, for a complete analysis of corn-cobs, so as to prove whether there was any nutritive quality in them.

But my opinion is, that if the hundred dollars were spent in actual experiments of feeding live stock with cob-meal, a much more satisfactory result might be arrived at, than can possibly be done by any chemical analysis. If Mr. C. him-

self will undertake the matter, I am sure that he will prove some facts of vast importance to the corn growers of the United States. Where cobs are to be had in vast quantities if they were used as fuel and the ashes carefully saved, I have no doubt that they would be found more than twice as valuable as wood-ashes for any purpose. If cobs are not worth feeding to stock, and not of sufficient value as manure or fuel, to be worth saving, then I am greatly mistaken, and hope to have my mind enlightened with the truth; and when that is done I shall not feel so grieved to see this bountiful product of nature lying knee-deep across the public highway in front of the door of many a hog and hominy farmer of the West. But enough about one of nature's productions which the world estimate as good for nothing.—*Am. Agr't.*

Value of Leached Ashes.

In conversation with an agricultural friend a few days since, he mentioned that he had found great benefit from the application of old leached ashes to wheat, especially on sandy soils. In one instance, 100 bushels of ashes per acre, spread on the soil after the wheat was sown, gave him an increase of ten bushels per acre. He has spots on his farm where he can see the beneficial effect of unleached ashes, applied nine years ago, every time the lot is sown with wheat. He has tried *unleached* ashes with no benefit to wheat, though he thinks them good for corn. To what is the fertilizing property of old leached ashes owing? We cannot definitely answer this question. We are inclined to think, however, that it is owing in some way to a substitution of the alkali ammonia for the potash and soda which have been leached out. It may be that they contain the double salt of silicate of alumina and soda to which clay owes its power of retaining ammonia. If this is the case, by adding leached ashes to a sandy soil, we add ammonia, or at least, the means of retaining the ammonia brought to the soil by rain from the atmosphere; and that, too, in the best condition for assimilation by the plant. Taking this view, it would follow that the older the ashes, and the more they had been exposed to rain, the better and stronger would they be.

But whatever difference of opinion there may be as to the cause or reason of the fertilizing value of leached ashes, all agree that they are valuable for wheat on sandy soils.

There are in many parts of the country old asheries, from whence leached ashes can be obtained at a mere nominal price; and it is truly surprising that they are not more extensively used. The fall is the best time to apply them, though they might be spread on the wheat while more or less snow is on the ground in the winter to advantage.—*[Rural New Yorker.]*

The Best Varieties of Pears.

Hovey's Magazine speaks of the late exhibition of the Boston Horticultural Society, as one of the most brilliant and extensive ever held. The season in the vicinity of Boston has been very favorable for the production of that favorite fruit of Bostonians, the pear, and the contributions were consequently very extensive, Hon. M. P. Wilder sending in for exhibition 310 varieties, Hovey & Co. 300, J. S. Cabot 120, Samuel Walker 100, &c.

As among such a multitude of varieties some kinds must be better than others, while many are of little or no value, it will doubtless be interesting for our readers to know the twelve best varieties, which were selected by the committee. They were as follows:

From Hovey & Co.'s collection—

Grey Doyenne, White Doyenne, Swan's Orange, Beurre Bose, Glout Moreau, Flemish Beauty, Doyenne Boussock, B. Diel, Bartlett, Duchess D'Angouleme, Louise Bonne of Jersey, B. D'Anjou.

From Joseph Stickney—

Louise Bonne of Jersey, Winter Nelis, Easter Beurre, Marie Louise, Vicar of Winkfield, Beurre Diel, Urbaniste, Glout Moreau, Belle Lucrative, Bartlett, Thompson, Flemish Beauty.

From Jos. Richardson—

Beurre D'Anjou, Louise Bonne of Jersey, Urbaniste, B. Easter, Bartlett, White Doyenne, B. Diel, Belle Lucrative, Flemish Beauty, Dix, Duchesse D'Angouleme, Vicar of Winkfield.

These varieties may be said to be the cream of nurserymen's catalogues, being universal favorites everywhere. They have all, with a few exceptions, proven themselves to be of excellent quality in Iowa as well as in Massachusetts.—*Iowa Farmer.*

Virginia State Agricultural Society.

"Honor to whom honor is due."

Several of our cotemporaries have spoken approvingly of suggestions by the Virginia press, favorable to some solid and substantial token being conferred on General *Richardson*, for services rendered by him to the cause of agriculture, especially manifested in the great State Exhibition at Richmond last fall. It would seem that the awakening the planter, the farmer, and citizens generally, to the landed interests of the State, which had a long time lain partially dormant, was to some extent unknown until the contributions and attendance at the State Fair demonstrated, that extraordinary effort must have been made by some one to have brought about a result so unlooked for and desirable. The feeling produced on the occasion led, as is stated, to the subscription by individuals of fifty thousand dollars towards the support of their State Society. This gratifying result is ascribed mainly to Wm. H. Richardson, whose name is familiar to us from a letter elicited by him on practical agriculture, for the benefit of Virginia, from the pen of James Gowen of Mount Airy, published in the *Farmers' Cabinet*, Nov. 1845. We are not otherwise acquainted with this distinguished person, whom we call distinguished, not because he is a General, but on account of his having distinguished himself in the peaceful and profitable pursuits of agriculture, which entitles him, as a co-worker with us, to the right hand of fellowship. The man, whether Virginian or Pennsylvanian, who has devoted his time and talents to agriculture, thereby enlarging the resources and promoting the prosperity of the country, commands our respect and sympathies.

Durham Bull Napier.

We neglected to state in our last number, in connection with the engraving of the splendid Durham Bull "Napier," that he was bred by Thomas P. Remington, near Philadelphia. This gentleman has gone to considerable outlay of capital, and spared no pains to retain some of the best and purest Short Horn blood in the country. His herd consists of some very choice animals not excelled in Pennsylvania, both of Durhams and Alderneys. They will repay a visit by the practical judge of stock, and amateur who enjoys the sight of beautiful and high bred animals.

Durham Bull Calf.

To persons desirous of purchasing a very superior Durham Bull Calf, we may mention that Juno the 3d, an engraving of whom was published in our last number, and owned by Gerard Cope, has one now about seven weeks old which can be purchased. It was got by Napier, the fine bull engraved on the same page. The blood is of some of the best in this section.

FARM IMPLEMENTS.

As the season for active, out of doors operations is now at hand, it will be well for the farmer to look about him, and see that his implements are all in proper order, his selections made of such as are wanted, the necessary labor for the season secured, and the business of the year well digested and arranged beforehand. When the spring fairly opens, every thing of this kind should have

been fully matured, so that work may go on with energy and despatch.

In relation to farm implements, from a thrashing machine down to a hoe and rake, such great improvements have been made that there would be a real profit and economy in throwing away such as are imperfectly constructed, and procuring others.

Take, for instance, the old fashioned heavy iron corn hoe, weighing several pounds, and compare it with the light, cast steel implement of the same size now made, and we contend that the hands on a farm could do as much *additional* work with the latter in one season, do it better and with less fatigue, than would pay for them several times over. The same may be said in respect to the cast steel garden rake, spades, shovels, and many other tools. A few years ago it was thought farm implements could have no *strength* without *weight*. Now they are made of the best materials, equally strong, but much lighter and pleasanter to work with. They are also in much greater *variety*, being constructed with reference to the work to be done. Instead of the common pointed shovel for cleaning out a post hole, we now have a perfect instrument for this purpose in the nearly circular post spoon or scoop, adapted to the shape of the hole. Instead of a piece of old board or rail for ramming the dirt, we have the cast iron post rammer, which settles it much better and in half the time.

Instead of one spade and shovel for every purpose on the farm, we have trenching, garden, post, ditching and field spades, with shovels of various sizes and patterns, adapted for particular uses. Expanding and reversible harrows and cultivators, with steel teeth, have superseded the cumbrous and unwieldy ones of olden time. Mowing and reaping machines are fast crowding out the scythe and sickle, and with the unloading fork by means of the rope and pulley, are greatly abridging the labors of the harvest. In fine, labor saving machinery has become not only a matter of choice but *necessity*. In nothing is improvement more apparent than in the plow, not only has great lightness of draft been attained, but the work is much better done than formerly, and the soil left in better condition for the growing crops. True plowing is closely allied to spading, at least this should be the point aimed at. A fine and minutely pulverized seed bed greatly promotes the germination of seeds, attracts moisture and nutritive gases from the atmosphere, and may be cultivated and freed from weeds with much greater facility than where the sod is turned and allowed to harden and become baked by exposure to the sun. The success of a crop depends very often on the character of the first plowing. A plow of wrong construction, however skillful the plowman, can never make good work.

We would encourage farmers to select the best and improved implements of all kinds at the commencement of the working season.

MILK HOUSE.

Editor of Farm Journal:—The undersigned desires to erect a milk house under the following circumstances, and being apprehensive that there may be difficulties or impediments in making good hard butter during the warm summer months, under such circumstances, would be

obliged to any farmer having practical information on the subject, who will communicate it as early as convenient through the columns of the Farm Journal. It is proposed to bring the water from a well of about thirty feet in depth, located on an elevation 5 or 600 feet distant, by a lead pipe sunk to an average depth of three feet, the pipe to be embedded in charcoal, tan, or some other non-conducting substance, and the milk house to be one half or nearly so below the surface of the ground immediately surrounding the building.

1st mo. 27, 1854.

A SUBSCRIBER.

For the Farm Journal.

The Crow and Robin, or Assault on an Enemy and Defence of a Friend.

MR. EDITOR:—In looking over the Register & Examiner of December 17th, my attention was taken by a communication signed "Pro Bono Publico." As he has made some mistakes that may do harm where he least intended it, I will make an effort to correct them. But as many of your subscribers do not see the Register, I shall have to make a long extract, though at the risk of being served like the Rev. reviewers, who converted Dr. Franklin to Deism by the long extracts they made from infidel writers for the purpose of refuting them.

After speaking of "gangs of men and boys roving over the country, destroying the busy defenders of the farmer's crops," and scolding parents for permitting their sons to carry fire arms, he continues, "Such sentiments are neither new nor strange; they are as old as the settlement of the country. They have been taught by the habits of the fathers to the children from generation to generation, until they are linked to our natures. It is not a century since game was abundant, and hunting occupied a large portion of the time of our ancestors. Habits acquired then cling to the children's children *now*. Although game has greatly diminished, the pleasure of the sport is still relished, and the farmer unwittingly encourages the habit by an example of his own. An idea, generally diffused among the agricultural classes, that birds were injurious to the crops, caused an indiscriminate war to be made, in times gone by, upon these creatures. In this way while their sacredness was got rid of, their destruction was endeavored to be accomplished. This idea still exists among us. Nothing more fully establishes the truth of this observation than the annual exhibition of what are termed scare crows in the corn fields of the country. Some kinds of birds it is true—the crow, the black bird and the robin—will pull up corn, but who does not know that the worms destroyed by them would, if unmolested, be infinitely worse upon the crops than the birds. This old fashioned idea should be abolished. The farmer who draws air lines round his fields, or sets up on a pole a stuffed dress, not only exposes his own ignorance of his true interests, but holds out encouragement to the gunner to destroy the defenders of his grain. We have watched these obnoxious birds frequently in their endeavors to get to the grain, and have seen them commonly fail, while the worm at the stalk did not escape their observation."

Now, Mr. Editor, as I am an old farmer, whose parents permitted to carry a gun at twelve years of age, and one that always put up scare crows, you must acknowledge that I have sufficient *cassus belli*, and I think I will begin by "carrying the war into Africa." Writers of other professions are very much in the habit of speaking of the ignorance of farmers, advising them to do this and avoid doing that, when perhaps if they had understood the matter a little better themselves, it might have saved them some anxie-

ty. In the first place I deny that "Pro Bono Publico" ever saw a crow "fail" to take up a hill of corn that he had once attacked, unless driven away. And second, he does not know what air lines are intended for. They are not intended to scare away birds in general, but crows in particular. Any observing farmer could have told him that small birds do not fear scare crows; robins, black birds and wood peckers will walk under air lines with as much unconcern as under a spider's web. It is only by approaching the crow on what he considers his strong side, (that is, his great cunning and caution,) that human reason triumphs over him. I have never known him to alight inside of a continuous line of small twine stretched round a field; he seems to think it a wide-mouthed snare ready to spring. I use storekeepers wrapping yarn a few balls will go round a large field.

I feel sure that taking one year with another, more corn is destroyed by the crows in Chester county than by the cut worm. Fall plowing is a sure preventative of the latter evil, but I have never found any thing to answer for the former but the much abused air lines. The crow also injures corn very much in the fall of the year, by picking the grains off all such ears as protrude from the husk, and frequently stripping the husk some distance down the ear.

There is no difficulty in distinguishing the work of crows from other birds. He always takes the whole hill, generally from two to four hills together, scattering the stalks in every direction, frequently in small pieces, (if the corn is very young,) in his repeated attempts to pull it up. The great ornithologist, Wilson, in describing the crow, says: "It is in the month of May and to the middle of June, that the crow is most destructive to the corn fields, digging up the newly planted grains of maize, pulling up by the roots those that have begun to vegetate, and thus frequently obliging the farmer to replant, or lose the benefit of the soil, and this sometimes twice, and even three times." And again, speaking of the great crow roosts, he says, "The noise created by those multitudes, both in their evening assembly and re-ascension in the morning, and the depredations they commit in the immediate neighborhood of this great resort, are almost incredible. Whole fields of corn are sometimes laid waste by thousands alighting on it at once, with appetites whetted by the fast of the preceding night, and the utmost vigilance is unavailing to prevent a partial destruction of this, their favorite grain. Like the stragglers of an immense, undisciplined and voracious army, they spread themselves over the fields to plunder and destroy wherever they alight."

It is here that the character of the crow is universally exaggerated; and to say to the man who lost his crop of corn by these birds, that crows are exceedingly useful for destroying vermin, would be as consolatory as to tell him who had just lost his house and furniture by the flames, that fires are excellent for destroying bugs.

The history of the crow has never yet been written. As Wilson failed we need look no further. The testimony I have yet to offer will I am sure make his friend "Pro Bono Publico" throw up his cause in disgust. Now, Mr. *Corvus Corone*, stand up by yourself; the attempt made by yourable attorney to unite your fate with the innocent shall not avail you. I accense you of not only robbing the nests of our domestic poultry, but also of destroying the eggs and young of the robin and other small birds. I have repeatedly caught you in the act, flying from tree to tree without noise or even raising above them, looking into every nest, even those he had robbed a few days before, stopping occasionally to peep through every avenue, and listen to every sound.

My orchard is near and in full view of the house, and directly in my way to a detached part of the farm. As I have

always taken great interest in birds, I noticed their progress in nest building. They early finish their nests and lay from one to four eggs; but I never knew one of the first round of nests to produce young birds. At the same time from four to six robins raised families in perfect security on the fruit and shade trees in the house yard; the crows well knowing, from woful experience, they were protected by a gun in the hands of one trained to its use. When the season was more advanced, the nests were concealed by the leaves, and poultry eggs and young corn in abundance, a few birds were raised in the orchard. And I observed if a bird only got so far as to commence incubation they were seldom destroyed, one of the old birds being mostly on the watch, raised such an outcry on the appearance of the crow, and collecting all the inhabitants of the orchard to her assistance, attacked him with so much vigor, that the cowardly burglar was glad to make his escape. My love for other birds only increases my detestation of the crow, as my admiration of the honey bee only strengthens my dislike to their cowardly destroyer, the wax moth, although they are both beautiful insects, as the former are all birds.

But this is not all. Naturalists have spoken in terms of admiration of that instinct of squirrels which directs them to bury or plant all their spare nuts, thus continuing and increasing our forests, as they never find half their planted treasure. But if they do not the crows do, or at least the greater part of it. I once planted an acre of ground with chesnuts; they came up and formed two leaves. I planted about a peck of nuts and the crows left but seven trees. They were all taken just as they take corn: just pull up the stalk, and if the nut does not come dig down to it. A mouse or squirrel always digs a hole by the side of the plant, and generally takes the nut without destroying the stalk.

But some may ask what crows were created for? I answer, perhaps for the same purpose that hawks, weasels, minks and foxes were created: to keep the innocent and useful within proper bounds. And the God of nature may not look with more anger on one of his agents than another; the crow's bill, the hawk's claws, the fox's teeth, or the boy's gun. "Pro Bono Publico" may drive away the boys until he thinks he has too many birds, and I will destroy crows, hawks, weasels, and foxes, until I think I have too much corn and poultry.

But my strongest objection to "Pro Bono Publico's" communication is the yoking my much loved and fondly protected friend, the robin, (*turdus migratorius*), to that cowardly robber and murderer, the crow, (*corvus corone*.) He says, "The crow, the black bird and the robin do take up corn." If he ever saw a robin take up corn, "something new under the sun" has "come to pass" in spite of Solomon, for from the creation to the days of P. B. P. their food has been caterpillars, worms and berries. Poor robin! you may well exclaim save me from my friends, and I will try to keep out of gun shot of my enemies." For this very slander, if uncontradicted, would do more for his destruction than all the air lines and other scare crows in the world; for only convince most farmers that a bird takes up corn, and you may preach about the sin and cruelty of destroying it in vain.

We hear much about farmers studying chemistry, but in my humble opinion a little natural history would be quite as useful. Last spring a friend saw a neighbor's son shooting all the house wrens he could see. On being remonstrated with, he defended himself by saying that they were "the worst birds on corn he ever saw." And to prove it he took him to some hills of corn that had been partially injured by the field mice, having a small, clean hole by the side of the stock, and as the corn was young a few plants had been pulled up with the grain. It was early in the morning and

looked fresh, being done in the night, (the mouse seldom quitting his subterranean retreat in the day time.) It was near the house, the wren was seen in the vicinity, the real culprit safe in his hole, the poor bird had to suffer; a victim to circumstantial evidence, or rather to gross ignorance.

I have lived on a farm all my life, and been a close observer of the habits of birds most of the time, but I never saw corn much injured by any of the feathered tribe, excepting barnyard fowls and crows.

The red-wing starling (swamp black bird) which commits such havoc in the Delaware peninsula, is quite harmless in Chester county, though I have known them to injure a few hills. I have not had to replant more than a few hills since I have used the much abused air lines, although, as I have already said, small birds do not stand in the least fear of them.

V. W. I.

P. S.—In looking over Wilson's description of the crow a few minutes after I sent my communication, I discovered that I had unaccountably overlooked the following: "In spring when he makes his appearance among the woods and thickets, the whole feathered songsters are instantly alarmed, well knowing the depredations and murders he commits on their nests, eggs and young." I am, therefore, happy to acknowledge that the history of the crow has been written. Wilson's only omission is their destruction of young forest trees, and only mistake accusing them with taking up corn before it vegetates—a strange error for so close an observer of nature, as birds are guided by sight alone. The hog is the only animal with olfactory organs sufficient for such a purpose.

V. W. I.

For the Farm Journal.

Guenon's System and Mr. James Gowen.

I feel my inability, Mr. Editor, in every way, to wield the pen in opposition to a gentleman of the distinguished attainments of Mr. Gowen, not only of large experience in agricultural matters, but also long accustomed to both speaking and writing for the public.

I have never attained his position as a skillful breeder of stock, or been able to exhibit such enormous profits, on paper, of skillful farm management, as he published some years ago in the Farmers' Cabinet. Neither could I be induced to any controversy with him now on any other subject than "Guenon's System of Choosing a Milch Cow." Here I feel at home; have been studying and practising it for the last five years, at great expense and loss of time; have been far and near to see all the good cows I could hear of; and allow me to say I doubt very much whether Mr. Gowen knows any thing about the system on which he has been commenting so severely, and with such unnecessary vulgarity. I am, Mr. Editor, more a practical man than a deeply read or erudite one. Mr. Gowen, in this particular, has also greatly the advantage of me, but in respect to the mode of argument he has chosen to adopt in relation to Guenon's system, I may remark that I have a faint recollection that there once lived a person called Lord Bacon. He was said to be the father of the *inductive philosophy*, or reasoning from facts. Instead of attempting to controvert the system, because we can't understand its theory, would it not have been better for Mr. G. to have examined into the existence of the alleged facts in the case. It is said that a skeptic was once conversing with the celebrated Dr. Parr, and told him "he was not bound to believe any thing he did not understand." Then says the Dr., "your creed will be the shortest of any man I know." Apply Mr. Gowen's mode of reasoning to Dr. Franklin's experiments on electricity. He proved by the ignition of a spark, in the experiment of the kite, that it and lightning were identical. What mattered

it to him, after ascertaining the fact in this way, about all the arguments and theories of the philosophers that it could not be. With such reasoning as Mr. Gowen's, every improvement and discovery in science may be denied and ridiculed. Certain principles have been applied in the construction of the steam engine and the solar microscope. Their truth has been demonstrated by the fact of these instruments having been made. Because Mr. Gowen and somebody else cannot understand and don't believe in them, are they therefore untrue? Is Mr. Gowen a believer in the old Grecian philosophy "that universal doubt is the only true wisdom." He has certain indications by which he judges of a milch cow, and says that Guenon's system "pays no regard to physiological principles as showing the affinity existing between the strip and the lactescent organs of the animal." Now will Mr. Gowen be kind enough to point out "the affinity existing between a small, waxy horn, a taper-muzzle, a mild eye, a bright nose, or a thin tail, (marks which he considers of value,) and the lactescent organs of the animal." Will he explain to the readers of the Farm Journal "their physiological connection."

What, Mr. Editor, are the facts in this case, and matters of undisputed history. Several learned societies in France subjected Guenon's system to the severest tests. Hundreds of cows were examined by impartial committees under a severity of circumstances, which made collusion utterly impossible. It was tested in various places there, under various circumstances, and the result was positive proof of its originality, its certainty and great value to farmers. Was it not also fully proven in the report of the very respectable committee of the Philadelphia Society for Promoting Agriculture, and has its truth not been fully proven in the actual experience of a large portion of the practical farmers and dairymen of Chester and Delaware county? Is Mr. Gowen's *mere ipse dixit* "that it is all "sheer nonsense," to weigh against such evidence as this? Let me tell him that practical farmers are, of all classes, the least likely to be humbugged. They are *slow*, proverbially so, to believe new things, but they have proved Guenon's system to be practically correct. There is evidence in the neighborhood of West Chester most amply sufficient to convince any man, who can credit his own senses, even if they conflict with a favorite theory. All the good cows in this neighborhood, that yield an extra amount of milk and butter, correspond with Guenon's marks. If Mr. Gowen will produce an inferior marked cow, that holds on to her milk, gives a large quantity, and of a rich quality, I will go and see and yield my point; and I now challenge him, or any one else, to produce such a one. He attempts to explain these peculiar marks of Guenon on the escutcheon, by the switching of the tail, her laying down in an uncleanly place, &c., &c. This is "sheer nonsense." Why, Mr. Editor, these peculiar marks are born with them. They exist in the calf before it has lain down at all, and are well developed at a few weeks old. Mr. Gowen's marks very often accompany a deep milker, but they are not invariably. I could show him fine looking animals with his marks in perfection, and the cows not worth their keep. They do not tell her real value, the quantity of her milk, or the time she will go dry, as I assert Guenon does. Among my first purchases was a cow with certain marks, which Guenon denotes as indicating a bastard cow, that is, one of the first class and order, but going dry directly after calving. I bought her on purpose to test its truth. She went dry six weeks after the calf went off. On another occasion I went with a friend to a vendue of cows, quite celebrated in the neighborhood for their great aggregate yield of butter. He was not at all acquainted with Guenon's system, but was counted an excellent judge by the ordinary method. He

soon selected a beautiful animal to bid at. I told him, after examination, she was *good for nothing*. He seemed incredulous, as the farmer was reported not to have an indifferent cow in his dairy. I went to enquire about her, and found she had been brought there to sell by a neighbor, on account of her utter worthlessness, going dry so long.

I have examined some of the most celebrated cows in this vicinity by Guenon's system, and have found it *invariably* correct. "Bessy," formerly owned by Paschall Morris, and who made 15½ lbs. of butter in a week, is a striking instance of a full and well developed mirror.

E. T. Cope, of East Bradford, has a cow, marked according to Guenon, who has made 18½ lbs. of butter in a week. E. T. Williams, of Westtown, has one that has made 15 lbs. in a week in the winter, and is a No. 1, 5th class cow. William Ingram, of West Chester, has a small cow, with a well developed mirror, and who makes 14 lbs. of butter per week when fresh. Thomas B. Darlington, of East Bradford, has one, selected according to Guenon's marks, making 12 pounds per week on grass without feed. H. D. Court, of East Bradford, had one selected out of a drove by this system, and who made, when fed on grass, 16 lbs. per week. Many other instances could be cited. Mr. Gowen says "he can detect a hawk from a handsaw when the wind is southerly." Let me tell him there are practical farmers in Chester county who believe in applying lime and turning down green crops, and "can see through a grindstone when there is a hole in it."

Many of the cows above cited, if *examined* by Mr. Gowen in the *dark*, would be rejected, and I could show him others which he would be likely to select, from the marks which he relies upon, that no dairyman would own long. Not one of the above cows will go dry more than a month, and some of them milk till calving. Guenon's system is the *only* reliable one, as far as my experience goes, which indicates the length of time a cow will give milk, and its quantity and quality. Cows have been selected by this rule, and sold subsequently at vendues for \$50 per head, and there is not a dairyman in the vicinity of West Chester, who has given the subject any attention, but acknowledges the truth of Guenon's system, and selects his cows accordingly.

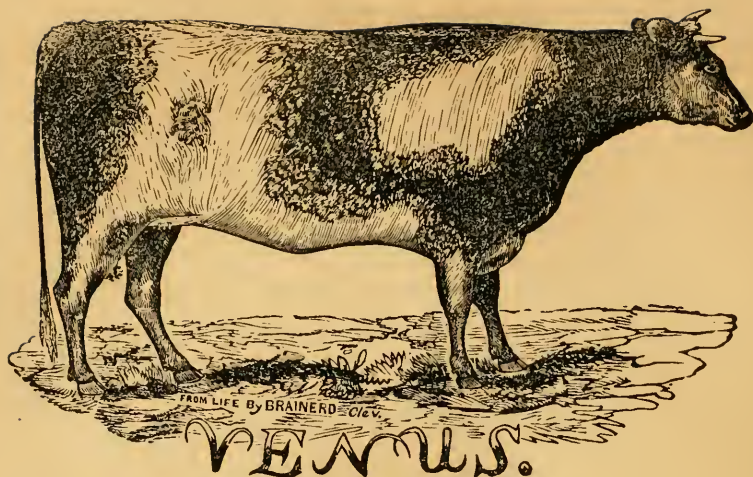
Isaac Newton, an intelligent and observing farmer in Delaware county, has also fully proved its correctness, and I have also understood the same of the Hon. M. P. Wilder, of Massachusetts, and Mr. Wilkinson, the distinguished professor and successful farmer, at the Mount Airy Agricultural Institute. I am, Mr. Editor, a believer in the

SCIENCE.

For the Farm Journal.

Centre County Agricultural Society.

J. L. DARLINGTON, Esq.—Dear Sir:—Happening to be in your town some time ago, I was rather surprised when one of the publishers of the "Farm Journal" inquired of me whether the "Centre County Agricultural Society" was still in existence, and held a fair last season. At his request I will briefly inform you that the society is in existence and in a prosperous condition. The second annual fair and cattle show was held near Bellefonte on the 5th, 6th and 7th days of October last. The fair was attended by a large portion of the community, and was certainly worthy of the patronage it received. The display of stock and agricultural implements, as well as of fruit, and a variety of articles of domestic manufacture, exhibited to a flattering degree the industry and enterprise of our community, as well as the future prospects and benefits of the society. The



VENUS.

The above is a very good likeness of the Durham Heifer, Venus, bred and owned by Seth A. Bu-hnell, of Hartford, Trumbull county, Ohio. She will be three years old this spring, has a fine dark, roan color, docile temper, broad hip and loin, straight back, full crops and a remarkable aptitude to fatten. Venus was sired by Tecumseh, by Favorite, (No. 2000,) by Wye Comet, (1531.) Imported, dam Rose by Young Denton, (963,) g. dam Tuberose (imported) by North Star, (460.) gr. g. dam Tuberose by Cripple, (173.) gr. gr. g. dam Tulip by Comet, (155.) gr. gr. g. dam Cherry by Ladroue, gr. gr. gr. g. dam by Danby, (190.) gr. gr. gr. gr. g. dam by Young Favorite. (See Herd Book, vol. 1 and 3.)



PURE SOUTHDOWN BUCK.

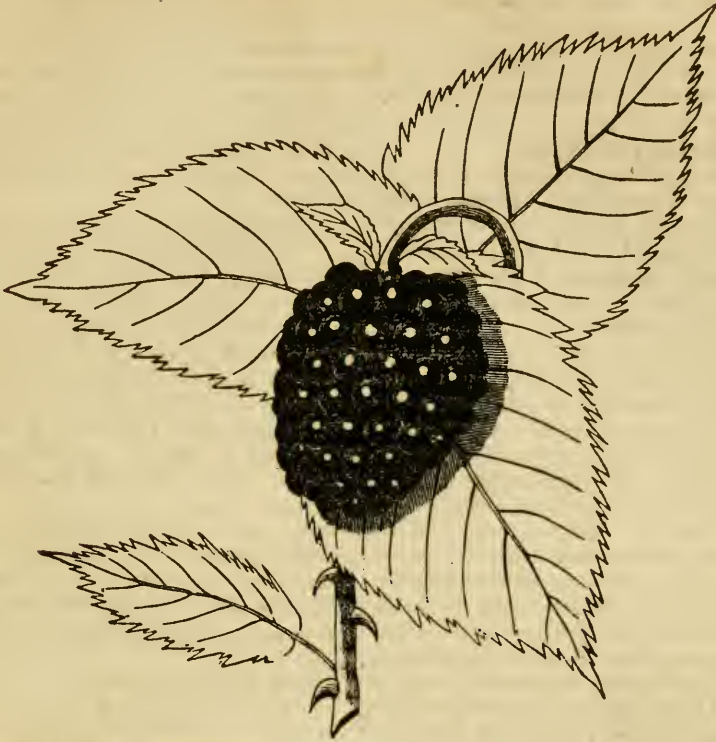
Bred by D. B. Haight, of Dutchess county, New York, from stock obtained of Francis Rolch, Otsego county, N. Y. He was purchased by Aaron Clement, of Philadelphia, and sold by him to John Worth, near West Chester, has been exhibited at two State Fairs at Lancaster and Pittsburg, and took the first premium at both places for the "best Southdown Buck." (See page 97.)

principal officers for the past year were: President, Hon. George Boal, of Boalsburg; Secretary, Gen. Geo. Buchanan, of Spring Mills.

Yours truly,

SAMUEL BRUGGER.
Unionville, Centre co., Pa., Jan. 26th, 1854.

"THE LAWTON BLACKBERRY."



The above is a drawing from nature of the leaf and fruit of this valuable variety of the blackberry, which must be elevated to at least an equality with any of the productions of the fruit garden. Its history may be given in the following extracts from the official report of the proceedings of the Farmer's Club of the American Institute, at a regular meeting held at their rooms, No. 351 Broadway, in the city of New York, August 2d, 1853:

"A splendid specimen of the blackberry was presented to the society by Wm. Lawton, Esq., of New Rochelle. Many of the berries were from three to four inches in circumference, and a large basket of them were partaken of by the members of the Club. Mr. Lawton named the fruit the 'New Rochelle Blackberry,' but the Club changed its name to the 'Lawton Blackberry,' and tendered to him the thanks of the Association, the following paper having been read previously by Mr. Lawton:

"This Blackberry—to which I have before called the attention of the club—has been cultivated, in small quantities, for several years, in New Rochelle, Westchester county, where I now reside. I have not been able to ascertain who first discovered the plant, and brought it into garden culture, but am informed it was found on the road side, and from thence introduced into the neighboring gardens. As it came to me without any name to distinguish it from the 'Wild Bramble,' I beg leave to introduce it to the notice of the club as the 'New Rochelle Blackberry,' and, at the same time, pre-

sent as a specimen a few quarts of the fruit, gathered this morning, precisely as they came from the bushes, without being selected. I have examined many works with a view to ascertain if there has ever been any improvement on the well known wild varieties, but without success. The 'Double Flowering,' 'Dwarf,' or 'Dewberry,' 'American Upright,' and the 'White Fruited,' are all that are named. The Dewberry is the first to ripen, and the best flavored fruit. The White Fruited seems to be cultivated as a novelty more than for the fruit. The Upright variety fruits late in the season, is of vigorous growth, and under favorable circumstances produces large mulberry shaped berries, but the seeds are not thickly imbedded in the pulp, and are abundant as to impair materially the quality of the fruit. The Blackberry seems to adhere to its original character with singular tenacity; or, from the many millions of plants which spring up from seeds annually distributed in almost every diversity of climate and soil, we should constantly find new varieties. Improving the wild plant by careful cultivation is one thing; to produce a new variety is nother. The fruit now before you I believe to be of the last named character. It is not like the Dewberry, or long and mulberry shaped like the 'Upright Blackberry,' and the seeds are so completely imbedded in a rich pulp as hardly to be noticed. I think in shape and size they compare very well with the Hovey Seedling Strawberry."

We commend the following communication to the attention of our readers. The manufacture of "fertilizers" has become a regular *speculation*; a dozen or more kinds are now in the market, and not more than one out of the dozen, perhaps, is worth the labor required to sow it on the land. Unless the farmer believes that

—"The pleasure is as great

In being cheated as to cheat,"—

he will do well to purchase no fertilizer that has not been repeatedly tested, and given positive and satisfactory evidence of its real worth.

CHEATING THE FARMER.

MR. EDITOR:—Under the above caption I wish to make a few remarks for your Journal. There is no class of the community so much imposed upon as the poor farmer. He is looked upon by every variety of sharpers as fair game, and they make game of him with a vengeance. Merchant, lawyer, doctor and pauper, alike take his money and return him humbug.

One of the most glaring impositions he has to submit to is from that class of men—I was going to call them something else—who manufacture improved fertilizers, which are in fact a little superphosphate of lime, a good deal of dirt, a good deal of ashes, and a little something to give them a bad smell. They serve to take away the hard earned money of the farmer—excite hopes which are not to be realized in the coming harvest. I do not wish to make a sweep and denounce all the fertilizers in the market, but I say that the many use the reputation of the few; some are good but a great many worse than worthless. Some of the latter have come under my own observation. A year ago when Peruvian Guano was not to be had, one of my neighbors heard that a cargo of Chilian guano had just arrived, and a quantity of it was for sale at a neighboring depot; he hurried off and secured what he wanted, and some of his neighbors followed his example. It was a queer looking article—no one had ever seen any thing like it before—a black, dirty looking stuff, and quite heavy; withall the smell was quite rank enough for a good article. On examination it was discovered to be 66 per cent. common salt, a little guano and the rest dirt. This stuff was sold at \$45 per ton. It was sowed with great care, but that was the last of it, and the money too.

The farmers have no idea of the fraud practised in the article of manures. I may say that hundreds of thousands of dollars are taken from them annually for which they receive no return except dirt.

An article called chemical salts is manufactured in Baltimore, which has been quite extensively used in this part of Chester county. I have used a good deal of it myself, and was the first to introduce it here. My first experiments with it were quite successful; I was led to believe that it was a first rate article, and recommended it to my neighbors, who have used largely of it with various results, but the chemical salts of '49 are not the salts of '53. Soon after it was introduced the demand exceeded the supply, for it was good; but if it does not contain less ashes and coal dust, the demand will not be hard to supply ere long. Why could not Mr. Chappell have called the article he manufactured last year "ashes mixed with a little superphosphate of lime;" then it would have had its right name. I know that was its

composition from two circumstances: 1st. Its general appearance and the quantity of fragments of burnt iron, old nails, &c., found in it. 2d. From the fact that it will volatilize the ammonia of guano. This salts purports to be bones dissolved in sulphuric acid; believing this to be the case, and knowing that sulphuric acid and its components, or phosphoric acid, would fix the ammonia, I thought salts and guano would make a good mixture for a top dressing for grass, and I had a quantity mixed for that purpose. After it had stood awhile I found that the ammonia was passing off rapidly, and I lost by the experiment. The potash of the ashes done the mischief. It acted as lime does when mixed with guano.

The adulteration of guano is carried on as extensively as the manufacture of bogus fertilizers, and with as much success. I have been told, and on good authority, that one of the most extensive dealers in guano in Baltimore is in the habit of taking his guano, which he purchases from the agent of the Peruvian government, to a warehouse he has on the Point, there unbags and mixes it with—what? you may well ask what—but he manages to make with dirt and water an increase of one ton in ten, when he rebags it. And he is not alone in his rascality. This is done after the inspection, which is but a farce at best.

Guano, when it can be had pure, is a good manure, and will repay the outlay, but mixed with superphosphate of lime it is better, which latter every farmer should manufacture for himself. The mode of manufacture and my own experience with it, I will give you again.

E. V. D.

Oxford, January 29, 1854.

For the Farm Journal.

SOMETHING ABOUT PLOWING.

MR. EDITOR:—It has now become a very common thing with writers whose communications appear in agricultural journals, whenever they speak about plowing up ground that has lain with grass, strongly to recommend to the attention of farmers the importance they consider belongs to a deep and thorough plowing. The idea thus promulgated so extensively, it would seem, must be prevalent; and it is put forward so confidently, and derived from such high authority, as to give the common people reason to think the matter was fairly and conclusively settled; that the same must be adopted as a uniform rule of action; and that it has become an established maxim in the progress of agricultural improvement, which should not be departed from, that a deep penetration of sward land is absolutely necessary in practice to promote the fertility of the soil and increase the ratio of production, and that farmers who would reap the utmost benefits from tillage must always bear in mind that which is thus laid down as a criterion for them to go by. But whether this opinion is derived (if I may be allowed to use the expression) wholly from actual observation and practical results; whether all manner of soils have been tried under *all circumstances*; and whether the thing has been thoroughly tested to the satisfaction of every unprejudiced mind, is something which has not been so completely canvassed as the nature of it seems to require.

The writer acknowledges his inability to enter into a proper investigation of this matter, and would therefore call the attention of those to it who may consider themselves competent for such an undertaking; that the Pennsylvania Farm Journal would be a suitable medium for the exposition of the subject; that time and talents might be profitably applied in so doing, and the farming portion of the community enlightened by the result of what may be produced. One of the questions which has a very important bearing upon the agricultural interests of some sections of the country is that about plowing; the proper depth of it; whether this should not, in some measure, depend upon the kind of soil; whether some ground would not be the better of plowing only three inches deep instead of six, while a differently constituted sample would be benefitted by turning up even eight or ten; and that inasmuch as the upper stratum of the earth under cultivation is composed of so many component parts, or materials, which vary very much in their degree and proportion, when entering into the composition of soils, in different places, should not this circumstance be a modification to any general or fixed rule which could be offered in favor of a uniform standard of deep plowing. THOMAS WARNER.

Wrightstown, Bucks county, 1st mo. 24th, 1854.

For the Farm Journal.

PECAN NUT.

MR. EDITOR:—In the January number of the "Journal" is a very interesting article on the Pecan Nut, from the pen of your correspondent W. D. Indeed, his communications are always interesting.

I have a tree of this species of hickory on my place of some thirty years growth, now measuring at three feet from the ground two feet eight inches in circumference, and twenty-five to thirty feet high. It has annually, for many years, produced a profusion of bloom in the spring, but only within two or three years have I discovered any of the nuts; these are of full size, and to outward appearance perfect, but not one thus far has been found with anything like a perfect kernel—they are all empty. I recollect many years since on stating to Col. Carr that my tree was large enough to bear, but did not. Mr. Carr recommended that I should graft the tree, for which purpose he offered to furnish me with scions from his large tree, then growing on his grounds, (Bartram's Botanic garden;) however, his tree, as he told me, bore only a few nuts occasionally, and I am not certain whether these were perfect or not. I did not go to the trouble of re-grafting my tree, but let it take its course.

As this tree is perfectly hardy and grows vigorously, there is no difficulty in its cultivation; almost any soil suits it if not too dry, though a deep, loamy or alluvial soil suits it best. If it would always bear perfect fruit when becoming of mature age, it would be a valuable addition to our nut bearing trees.

As there appears to be some uncertainty about trees raised from the nuts bearing perfect fruit, I would suggest, in addition to the recommendation of Mr. W. D., that our nurserymen not only raise the trees from the nuts, but that they also graft them from such trees as are known to bear perfect fruit. This mode of propagation would undoubtedly have the effect of bringing

the trees into a bearing state earlier, becoming more prolific, and if a good variety is discovered, when once properly developed, would be perpetuated. Mr. Carr informed me at the time that the grafts take kindly on our common Hickory, and for want of a stock of the Pecan these might be used to advantage.

Respectfully, &c.,

January 25th, 1854.

J. B. G.

For the Farm Journal.

A QUERY ANSWERED.

MR. EDITOR:—In reply to the *query* in your last number, I would state, that I was formerly engaged in buying and selling grain in one of the largest grain markets in this country, and though I have bought and sold many millions of bushels, yet I do not recollect of a single difficulty of the kind ever having occurred, to which your correspondent alludes. Nevertheless I can tell you the *custom*, without knowing any thing about the *law*, in such matters, as far as the same has come under my notice.

When a farmer or dealer offers a lot of grain at the market price, we understand it to be the market price at the time of making the offer, unless it is particularly stipulated that the price shall be named at the time of delivery. If the seller makes no allusion to the future, in the transaction, the inference is conclusive that he is selling at the *then* market price, though it may be some days or weeks before the grain is delivered.

I have frequently been called upon, in the course of my business, to refer to my books and ascertain the market price of grain at some previous date—perhaps weeks or months distant—as grain had been engaged then, but not delivered, and the information desired was the price of the article at the time of the engagement of it. There is no doubt, therefore, that where there is no allusion to the future, nothing said about the price at the time of delivery, that the price is to be governed by the market at the time of the engagement of the grain. L.

For the Farm Journal.

Lehigh County Agricultural Society.

MESSRS. EDITORS:—Through the kindness of the proprietors of the "Friedensbothe," I obtained several copies of your "Farm Journal," in which I find descriptions of different County Agricultural Societies, that of our own excepted. I will give you some facts in relation to our society, from which you are at liberty to glean what useful or interesting you may find therein. Allow me here to inform you that Lehigh county can boast of as good a society as any in the State, taking into consideration the short time of twenty-three months since our first meeting for organization was held, we now number over 600 members.

We have purchased and enclosed a beautiful lot of 8 acres of ground, bordering on our borough, upon which we have at considerable expense erected permanent buildings. The main building is 100 by 40 feet, two stories high, also permanent stalls and shedding, sufficient to shelter over 400 head of horses and neat cattle, another building for the exhibition of poultry, besides an office building.

We have within the enclosure a circular race course of about one-third of a mile in length, upon which some very good stock in that line was exhibited. We how-

ever, do not sport any of the celebrated Morgan and Black Hawk horses, (such as at the National Horse Exhibition at Springfield, which we had the pleasure of seeing,) but our stock of horses generally is pronounced by competent judges as very good both for road and farm. I, however, cannot speak too highly of the Black Hawk and Morgans. It is a deplorable state of things that our farmers and horsemen generally, not only in this county, but throughout the State, do not see the advantage, use or benefit of introducing that valuable breed of horses; but I am losing the subject.

We held our second annual fair last September, (28th, 29th and 30th,) which was truly great, beyond all expectations. I think I may safely say that 15,000 persons were within the enclosure on the second day of the fair. The receipts at the office would warrant my assertion. The display of poultry was astonishing; it was asserted by visitors from a distance that in that department we were equal to any in the State, (I will, however, except that of the Pennsylvania Poultry Society, held in Philadelphia lately.

In the horticultural department, as well as the vegetable, the eatables generally were very tastefully and copiously displayed. The machinery and farm implements were not few. The field crops also had their competitors, one of whom was claiming 133 bushels of corn to the acre.

A plowing match was held within the enclosure, at which both skill and taste were fully brought forth. The mechanical display was extravagant; as carriage building is very extensively carried on amongst us, the competition was spirited in that branch.

Our annual meeting is held in February, when officers for the current year are chosen. The affairs of our society are carried on with spirit and harmony, and from appearances our efforts are cheering. We are destined to become a great and useful society. Truly yours,

Allentown, Lehigh co., Jan. 16th, 1854. L.

For the Farm Journal,
EDUCATION WITH LABOR.

MR. EDITOR:—The subject of education is now such a popular one, and so much said and written about it, that it is matter of astonishment to see so little yet effected by its advocates. The plan of Manual Labor Academies has always appeared to me as fraught with immense advantages, both to the indigent and the wealthy. An institution of this description, I believe, exists at Germantown, and, independently of its sectarian character, deserves to succeed. Establishments on this plan must eventually become popular. Every child in these States, where the wheel of fortune revolves with accelerated motion, should receive some kind of education in addition to mere learning, by which a livelihood could be obtained in cases of vicissitude. On the Island of Nantucket this is generally practiced, or was some years since. The young men who come from there are many of them coopers, and numerous instances have occurred where the trade has become their sole mode of subsistence.

These observations have been called forth by a description given me of the "*Manual Labor Academy at Germantown*," in this State, and near the city of Philadelphia. The premises, I have been informed, contain forty-two acres of ground, several out houses, and a

commodious dwelling on the main street, with other conveniences, workshops, gardens, &c. The scholars board with the principal, on simple but wholesome diet, and as much as possible the product of the pupils' labor on the farm. Honest industry, learning and piety are here united. The hours of recreation, I learn, are not hours of waste, idleness and immorality. They are employed in useful bodily labor, such as will exercise their skill, make them dexterous, establish their health and strength, *enable each one to defray his own expenses*, and fit him for the vicissitudes of life.

Here is a plan, surely, which unites to obviate every difficulty in the way of learning, while it effectually promotes health, prevents the student from becoming a mere book-worm, and qualifies him for future usefulness in two distinct modes—the body and the mind. They are not afraid of the east wind; their limbs rejoice in muscular efforts; sleep comes uncoveted, and they rise from its indulgence prepared for further efforts. Students generally use so little exercise that their muscles dwindle, their digestion is disordered, and their heads liable to periodical pains. This health preserving labor, as is justly observed by my informant, is also profitable, and its results are placed to the credit of each manual labor student. Several pupils were found at the end of the year to have very small balances against them for their boarding and tuition, and some of them almost none, for their labor is credited to each who labor. Some are said to be employed in carpenter work, some gardening and farming, &c., &c., &c.

There are several prosperous institutions on the same plan in the Union, and similar schools are being located in the western States. Cincinnati can now boast of a like institution on an extensive scale; the west may yet become the seat of the greatest number of well educated men—she may yet show us practically the true way to make education cheap and universal. New York, Massachusetts, Kentucky and Tennessee can boast of similar institutions. I cannot but hope that a few single examples of success, let them occur in what quarter they may, will serve as beacons to light enquiring minds to the best and most efficient, the cheapest and most healthful mode of getting instruction. Trusting thus to render service to the community, in gratifying my own feelings in making public so useful an undertaking, full of advantage, and destined at no distant day to supercede old methods, and to conquer many existing prejudices. J. S. G.

Media, February, 1854.

For the Farm Journal,
COCCINELLA BOREALIS.

MR. EDITOR:—I wish in this communication to correct an error, which I fell into in reference to the character and habits of the above named insect, as well as to say something about Coccinellas in general. In volume 2, page 224, of the Farm Journal, I stated that the large yellow "lady bird" (spotted with black) did not attack vegetation, but was found upon vegetables only for the purpose of devouring the plant lice (Aphids). That they restrict their diet, however, to plant lice is not true, as subsequent observation and the corroborative testimony of several distinguished naturalists of this state assure me.

I think it was as early as the year 1839, that I heard

a gentleman, an experienced melon grower, remark that he never saw the "large yellow lady bugs" so abundant or so destructive to vines, observing that they had much injured his cucumber and cantelope vines after they were in bloom and bore young fruit. A year or two subsequently I saw them myself in great numbers upon a wild vine resembling cucumber, growing along the margin of a meadow. I saw that many of the leaves were eaten, but being then untainted with the *mania entomological*, I paid very little attention to the circumstance. After having had a better acquaintance with this and other insects, and seeing no confirmation of my former experience, either from personal observation or from the observations of others in published works on the subject, I very readily concluded that both the gentleman alluded to and myself had confounded the above named insect with the much smaller "yellow striped bug," (*diabrotica vittata*), that is so destructive to all vines, especially watermelon, when they are quite young and tender. I am now convinced that *coccinella borealis*, wherever it appears in great numbers, is destructive, and may be very destructive to vegetation, at least those vegetables which are most grateful to its palate, which seems to be the leaves of succulent vines. I believe, however, that this is the only true *coccinella* that does attack vegetable, the others confining themselves to animal food, and as such are very useful in ridding plants of the *aphids*. *Coccinella borealis*, from its color and size, is readily distinguished from all others belonging to the same genus. *C. mali* of a dark red color and somewhat larger in size, is rarely found in this locality, but is quite abundant in the latitude of Lake Superior. The other most common species are *c. quotata*, "nine-spotted;" *c. abbreviata*, spotted on the terminal half of the elytrons, (wing covers,) the basal half being plain; *c. 13 maculata*, "thirteen spotted;" *c. munda*, without spots; *c. normata*, with two spots; and *c. 10 maculata*, "ten spotted." The last named species is black with yellowish red spots, and the others named are all red or reddish yellow with black spots. There are also other allied species of similar habits, and agreeing in their transformations with the description I gave of *coc. borealis*, vol. 2, p. 224, Farm Journal. These insects are generally regarded as the best friends of man, because of the slaughter they commit amongst the plant lice, and with the exception of *coc. borealis* they are so, and I only regret that his herbivorous propensities has at last compelled me to exclude him from the catalogue of insect friends.

To show how numerous they sometimes occur, and yet the little danger to be apprehended from them, I will quote an extract from "Maunder's Treatise, Nat. His., p. 136: "On Friday, August 13, 1847, the whole of the coast around Southend was visited by one of the most numerous flights of insects on record. They consisted of at least five species of lady-bird, and they came in such dense numbers as for miles along the coast to resemble a swarm of bees during hiving. The sea destroyed countless millions of them, and the grass and hedge rows, and every crevice that afforded shelter from the wind, were covered with their numbers, and for many miles it was impossible to walk without crushing numbers beneath the tread. Every true friend of agri-

culture, however, hails the appearance of these insects, as they are well known to be the destroyer of *aphides*, a race of flies the most injurious to vegetation."

It is stated on the authority of *Blumenbach*, that lady birds are a good remedy for the cure of toothache, no doubt the yellowish liquid they sometimes secrete on being taken in the hand, if properly analyzed, might be applied to some useful purpose, either as a medicine, or in the arts and sciences. S. S. R.

Lancaster, January 23, 1854

For the Farm Journal.

"Alderney Cows and James Gowen's Address."

MR. EDITOR:—I am neither so vain nor so silly as to expect to please every body, nor am I so timid as to shrink from the discharge of whatever duty the dictates of reason and understanding may impose upon me, through apprehension of incurring the censure of those whose interests or prejudices might incline them to differ with me. The man who shapes his course to avoid all obstacles, and trims his sails merely to catch the popular breeze, will be found at the end of his voyage to have achieved little else than his own complacency. Having risked nothing for the benefit of others, he will have left them no new or more reliable landmarks to steer by, nor have made any discoveries promotive of the cause he professed to have embarked in. Apply this to agriculture—will it increase the average per acre of wheat, corn and other products of the field? Will it increase the size and quality of our cattle, and render us independent of other states for our beef, butter and cheese? No, never! It will in this respect leave us where we were long, long ago, where we now are, and where we must remain, unless something better than mere show, glorifications, fine drawn speeches, pretension and quackery be brought into requisition to urge us to look to a better destiny, and the attainment of a more creditable position. A great man, I believe Mr. Webster, once said, "fine words butter no parsnips;" nor will editors nor orators fill the barns and stalls as they should be filled, unless they use their types and tongues more to the purpose, more understandingly, I had liked to say, more honestly.

It had become manifest of late, that whatever improvement had been realised, through honest effort, by the friends of agriculture, was in jeopardy by the pretension and quackery of those who were overshadowing the cause by the means they made use of to throw light upon it—the more difficult and mysterious they could make the practice of agriculture to appear, the greater need would there be for the science they professed, to unfold its mysteries. Like the juggler and the quack, they first address themselves to the credulity and apprehension of their victims, in order to render their tricks and nostrums the more admirable and necessary. Under these circumstances, what farmer, having the right spirit within him, could look on unmoved, and not attempt to arrest, or whistle off the pack that, in full cry, was running agricultural improvement into the ground. It is true that though many see and deplore these irregularities, there are but few who will openly step forth to correct or rebuke them. They complain in private, and disapprove only by withdrawing themselves from associations they cannot countenance, under the rule, "let every one take care of his toes, as Jack Donkey said when he danced among the chickens." But the rule should be, not to admit the donkey or the fox into the poultry yard, and it should be the study of every farmer to assist in keeping them out, no matter what kickings and brayings, quirks and tricks they may practice on account of their expulsion or exclusion. That the philosophic and scientific faculty will raise a terrible

dust, when interfered with, is to be expected, but it should be understood that it will only be dust, which, though it may affect the eyes of a few, will, in the main, prove harmless till some friendly drizzle shall have laid it for ever.

These reflections lead me to explain my position at Mercer, and the remarks which have been questioned in your Journal, but permit me first to say that it would have seemed fairer, before animadverting upon them, to have placed these remarks more fully before your readers, than to have singled out a passage so well calculated to provoke opposition at hand, from the circumstance of so many Alderneys being owned by the fashionables in our vicinity. But where or however placed upon trial, or whatever be the bias or competency of my judges, I shall not shrink from the ordeal, if allowed, as is my due, a hearing.

It would have been easy to have constructed a discourse different from that which I delivered at Mercer, and which no doubt would have been applauded to the echo by those, whose praise is always in proportion as the subject matter in rapidness and vacuity approximates to the condition of their own minds—such praise as no right minded man would covet. I might have begun with Adam and Eve, in or out of the garden, taken up Noah with his broad, alluvial fields, teeming with the fertilizing debris of the flood from rocky disintegrations and vegetable decompositions, thrown in an interesting episode, which could not fail of being popular in these intemperate days, of how Noah cultivated the vine, and how, weak man, he made too free with the *juice of the grape*! From Noah thence to the Patriarchs, affording another interesting incident edifying to breeders, who would desire to produce special results, in the experiments of young Jacob upon the flocks and herds of his fair dealing father-in-law, Laban. Pass from the pastoral patriarchs to the Gentiles, and here Rome would supply a Cincinnatus, a Virgil, &c.; thence to the great farmers of modern times, especially our President farmers, from him of everblessed memory that sleeps at Mount Vernon, down to the astute cabbage grower of Kinderhook. Thus a frame work of antiquity, universality, glory and patriotism, having unity of purpose, might serve, if the filling up was well managed, to place agriculture in the zenith, and the orator in the ascendant too, provided there should not be too many hard-fisted, sound-headed, matter of fact farmers of the audience. I once was doomed to the infliction of having to sit out a lengthy dissertation, delivered before an Agricultural Society on the origin, use, improvement, &c., of the plow, which began by describing the plow used by Homer, and ending—no matter how. Now when I was called to Mercer to deliver an agricultural address, I neither thought of appearing learned or eloquent; other thoughts possessed me, such as how I might benefit agriculture in general and the farmers of western Pennsylvania in particular; hence I took occasion to caution them against empiricism, and essayed to teach them how to fill the meal bag, the milk pail, and the beef barrel; these were the leading objects of my mission. Have I succeeded? The copious extracts taken from the address by the press in different quarters, favorable comments by editors, and numerous private letters from able and distinguished men thanking me for the service I had rendered, will attest that I did not labor in vain. There is only wanting the open opposition to my effort of the corps charlataneal, to make my eup of gratulation to overflow, and tempt me to be vain indeed.

In pursuance of my object, I spoke decidedly against Alderney cattle as being unfit for farmers, and to this opinion I still adhere; the farmers I thought should select profitable cattle, such as are of good size, healthy, hardy, and of good milking and feeding properties. The milking proper-

ty claimed for them by some I attempted to refute, and could it be established, in any general sense, as superior to the common or native cattle, it would leave the Alderneys destitute of one of the most profitable properties, size and easy feeding—to make a good carcass of beef when the animal comes to be fed off. How these cattle may suit their native Islands, Alderney, Guernsey and Jersey, in the British Channel, with their equable, humid, mild climate, I shall not pretend to question, but sure I am that they are of such delicate habits as unfit them to withstand the scorching heat and intense cold of this continent. In England, where the climate is more congenial, they are found in Noblemen's parks, by way of contrast, I presume, to the larger breeds, as trees of different shapes and sizes are found in the same enclosures, to relieve each other and give effect. It is also true that the Duchess, Marchioness, Countess, &c., have their Alderneys, but this is "the freak of fashion" I alluded to in the address; so far as the noblesse of this country may choose to imitate the nobility of Great Britain, is not a matter for a farmer like me to presume to enquire into.

The correspondent of the "Country Gentleman," on British agriculture, under date from London, last October, treats of the different breeds of cattle, but with more discretion than applies to my valor. He says, "Were I to express a preference for other than the Durhams, those stately animals would look down upon me with unutterable contempt; or if I were to prefer them to all others, the Herefords might push me to the wall, the Devons run their long horns through me, the Ayrshires exult in my fall, and even the little Alderneys paw dirt in my face." In the same letter he gives a conversation he had with a Wiltshire farmer, who keeps a large stock, and turns off ten head of cattle yearly for beef; he compares the Durhams and Alderneys thus, "The Durham turns off 1400 pounds of beef each, the Alderneys are little better than goats." It is but fair to state that the man of Wilts also said that if he were to keep cattle for the dairy, "he would prefer the Alderneys, as they give more butter and cheese;" but if his practice is to be weighed against the assertion, his preferring Alderneys for the dairy may be taken for the popular cry and goes for nothing, for though he is a dairyman to the extent, as is stated, of making 22,400 pounds of cheese and 4,000 pounds of butter annually, he keeps no Alderneys, "his 60 milch cows are nearly thorough bred Durhams."

I must now turn to your correspondent "Rusticus," who, from his propensity to quote French and Latin, might, with more propriety, have signed himself "Pedanticus." I like things to be called by their right names. A farmer should write as a farmer, with the earnest desire of promoting the prosperity of his calling, and a rustic, as such, with simplicity and truth. But I presume your correspondent is neither farmer nor rustic, but one of the fashionables, and therefore, as he belongs to that hornet's nest, I must take such stings as any of the hive may be able to inflict, for having dared to thrust my head into it. "Rusticus," however, is stingless, he has mistaken his genus as well as his name, for though he shows a disposition to sting, he does not carry the weapon; he is more of a butter-fly than a hornet.

Now as to facts—I never said as "Rusticus" would have it to appear I did, that butter should be the "color of a rose;" I said, "the straw color of the butter of the Alderneys, so much boasted, is no proof of its excellence—the yellow, tinged with rose, is a more inviting and desirable color, evincing delicacy of flavor and giving assurance of the good health of the cow;" and I said right, but that was not saying that butter should be, the "color of a rose." The yellow, tinged with rose, gives rise to what is called "rose

butter," a designation significant of excellence in many of the European markets, and it is surprising that "Rusticus," who, it seems is a traveller and made the grand tour, is not familiar with the term.

I must also deny in toto, without any qualification, that the Durham, as your correspondent says, is "an artificial animal, very subject to disease and peculiarly liable to consumption, especially in this climate," and doubt whether he can produce even the shadow of proof to back this allegation; on the contrary they are the most healthy and robust animals to be found, and seldom are sick, except under highly improper treatment. Another ill-judged, ill-grounded objection of his, (so notoriously erroneous, that I marvel he should be so reckless as to have made it through a journal published at West Chester,) is that the Durhams are hard feeders, "consuming as much hay and grass as an elephant." Now the very reverse is the case, as admitted by all, that in early maturing and easy feeding they have no equals. Let any one observe the Durhams and Alderneys, or common cattle, at pasture in the same field, and he will perceive that the Durhams are lying a considerable portion of the day ruminating, while he will scarcely ever find the others at rest, but on foot, eating and grabbing, seemingly all the time unsatisfied. Then as to winter feeding the same difference will be apparent, if the cattle have proper care in common, the Durhams will be found plump, and if with calf rather fat, while the others will appear gaunt and in lean condition. Hundreds of examples might be adduced to prove the extraordinary health and constitution of the Short Horns or Durhams, and by consequence, their remarkable aptitude in maturing and fattening; an instance of this may be found in the two young Short Horn steers, raised by Mr. Brinton of Chester county, now exhibiting at the Black Horse in Market street. It may be asked, could any two, four or six pure Alderneys, be fed for beef, to four years old, the age of the above steers, to sell for as much money as these two steers shall have been sold for? No, not six of them, though two of them would consume as much fodder as the steers. The story of the London dairyman keeping Durhams because they gave thin milk, so as he could swear "he did not water it," is unworthy to be mentioned by your correspondent, as it bears on its face such marks of fiction that it would require a very responsible name, indeed, to obtain credence for it with considerate people. I have heard the same jest often before, but its paternity was ascribed sometimes to an Irish New York milkman, and sometimes to a Yankee. In the same disingenuous spirit, your correspondent has quoted Mr. Coleman, whose evidence he makes to darken counsel, or to pervert what Mr. Coleman did really say in chief of the Alderneys, in other words, the learned "Rusticus" gives the exception and not the rule. I admit Mr. Coleman as good authority, but then he should be permitted to tell the *whole truth*, and here it is. In volume 2d, page 319, of his Agricultural Tour, made between 1844 and '48, he says, "they are in general exceedingly ugly, small, thin, coarse boned, and presenting little more than the skeletons of animals, covered with a yellowish, flabby and coarse hide." Now I put it to all good judges of cattle, whether a description can be conceived, conveying a worse condition of *unhealthiness, unprofitableness* and *worthlessness* than this? And yet this was the general condition in which Mr. Coleman found the Alderneys so recently in England, where cattle are so well cared for; and this is the very Mr. Coleman that "Rusticus" made to tell a different tale, by which he thought to overwhelm and confound me! From this it will appear that the worst I said of the Alderneys falls far short of the bad character given them by Mr. Coleman; it is, however, but fair to state the exception to his significant, general rule.

He gives what he had heard, and what many have heard, of two oxen fattened by Sir Charles Morgan, weighing some one thousand six hundred pounds each, but does not speak of the age of these oxen, or the expense of producing these monstrosities of the Alderney tribe. He mentions that efforts were being made to improve this breed, and says he saw one of these improved animals, which "gave the best promise of any he had seen of what a cow should be," but he does not say from what quarter or cross this improvement was derived; if from the Alderneys themselves, and the rule that "like begets like" holds good, it is little less than a miracle that the animal was what a cow should be; it is, however, a solitary instance—"one swallow don't make a summer."

The late Mr. Physick, for several years a neighbor of mine, is pressed into service by your correspondent to show that Mr. P. took premiums for Alderney butter. Well, what if he did? Were his Alderneys a profitable investment? Quite the contrary. The "thick cream and yellow butter" was a hobby with him, and cost him dearly. He had a beautiful alcove lined with white marble for a spring house; when, as I often did, I remonstrated with him for keeping such cattle, which, in the language of Mr. Coleman, always looked like "skeletons," and pointed out to him the danger of using the milk of such ill conditioned cows, he would accord to me that I was right, but still the "thick cream and yellow butter" prevailed. This claim and boast of thick cream, &c., is the delusive cry that leads to the fashion of having Alderneys. Finding it so pervading, and the animals which yielded it so ungainly and wretched, led me to observe more closely the cause of this phenomenon, and I found in general the worst conditioned cattle, whether Alderneys or common cattle, giving the thickest milk and making the yellowest butter, admitting, however, that the quality of the food affects the color of butter, and that many have injured their cows by over-feeding with corn meal, &c., to produce a boastful yield. When I have seen the wasted carcasses of the Alderneys, and have heard that their milk was too rich for *cheese*, it occurred to me that their thick milk was owing to a weak and deranged system that wastes, or suffers to escape in excess, fatty matter from the blood, not properly elaborated into a pure milk, such milk as a cow having a sound and healthy constitution would make. Should this be the case, the milk of such diseased cattle is neither fit for butter nor cheese. Another common delusion is the claim that the yellow skin of the Alderneys is a sign of their propensity to give rich milk; I consider this condition of the hide of the animal to be more indicative of disease than of any thing else, and in general it will be found, on close inspection, that the skin is mangy or otherwise in bad condition—the milk from such animals cannot be safe; it may be apprehended that cutaneous diseases, and affections, both mental and physical, may be imbibed from the milk of diseased cattle. The heads of families cannot be too particular in this respect, and physicians would render an essential service to the community, which in no wise would derogate from their professional standing, did they point out these dangers to the families they visit, and take steps to insure to them wholesome milk. Let one of those yellow skin cows be slaughtered, and her beef will look as if she had died of the jaundice.

I shall, Mr. Editor, have to invoke your patience, and likewise your magnanimity, for having control of the types, and having, in common with "Rusticus," taken a premature and decided stand against my remarks at Mercer upon the Alderneys, it would be but equitable to permit your readers to hear both sides by affording me a fair hearing; in furtherance of which I beg leave to refer to "Youatt on Cattle," a

standard work. Mr. Youatt approaches the Alderneys with caution, owing no doubt to his fear of giving offence to the nobility, but nevertheless he is decidedly against them, he says: "The Alderney, considering its *voracious appetite*—for it devours almost as much as a Short Horn—yields very little milk; that milk, however, is of extraordinarily excellent quality, and gives more butter" (just what I remarked of all cows that give little milk,) "than can be obtained" (for the quantity,) "from any other cow." He adds: "Some writers on agriculture have, however, denied it." To carry out his views he quotes Mr. Parkinson, with the remark that Mr. Parkinson "seems to have a determined prejudice against them." Mr. Parkinson is made to say, "their size is small, and they are of as bad a form as can possibly be described; the bellies of many of them are *four-fifths of their weight*; the neck is very thin and hollow; the shoulders stand up, and is the highest part; they are hollow and narrow behind the shoulders; the chine is nearly without flesh; the hucks are narrow and sharp at the ends; the rump is short, and they are narrow and light in the brisket." Youatt adds: "This is about as bad a form as can possibly be described, and the picture is very little exaggerated."

And I may add that this and Mr. Coleman's description will apply in the main to all that I have seen of them within the last few years up to the present day, and my opportunities, in this regard, in New York, Pennsylvania and Maryland, have not been few. Suppose all the pure Alderneys

within this range, or in the United States, were collected together and exhibited to the contractors for supplying the navy and army with beef, and these gentlemen should be told that they must rely upon such cattle for fulfilling their contracts, even allowing a reasonable time for feeding off, what would they think? Why it would drive them into utter despair, for they could not but think that there would be but few carcasses, if any, that would produce one barrel of mess beef to pass inspection. On the other hand what prudent dairyman would venture upon a herd of some 20 to 30 pure Alderneys only, under the expectation of being adequately remunerated for their cost, feed, &c.? Let any one answer. When, therefore, I had witnessed the lack of profitable cattle on the farms of Pennsylvania, and counted the drain upon our coffers by other States, which supply us with beef, butter and cheese to so large an amount, could I do otherwise than, when at Mercer, on the confines of Ohio, to recommend to farmers, as I honestly did, the raising and keeping well sized, profitable cattle, and caution them against feeding such stock as the Alderneys. In conclusion I am free to say that I am ready to sustain any thing that may be objected to in my Mercer address, if questioned under a responsible name, as frankly as I have responded to your anonymous correspondents, "Science" and "Rusticus," upon cutcheons and Alderneys. Respectfully,

Mount Airy, February 8th, 1854. JAMES GOWEN.

CIDER MILL AND VEGETABLE CUTTER.--FIG. 1.

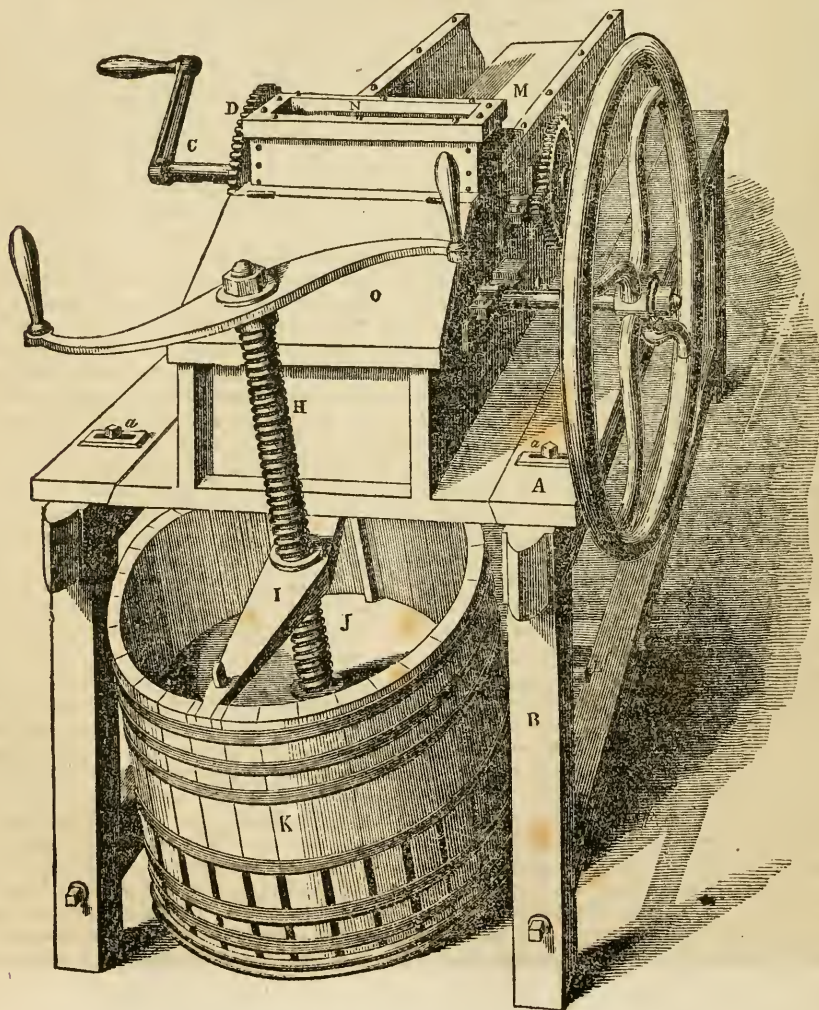
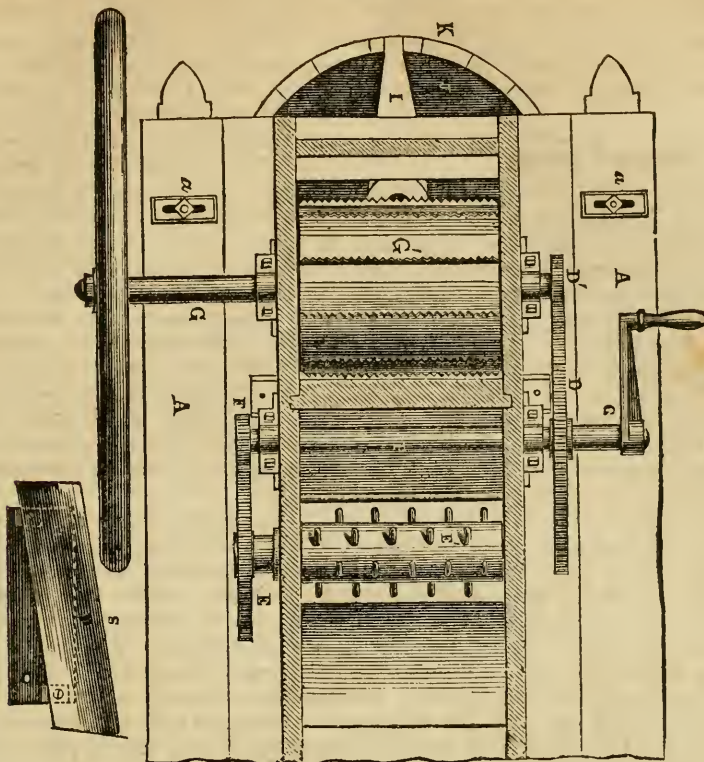


FIG 2



These engravings are illustrations of an improved Cider Mill and Vegetable Cutter, patented on the 26th of July last, by F. B. Hunt, whose present address is Richmond, Indiana.

Figure 1 prospective, and figure 2 a plain view of the machine, with the casing removed. The same letters in each figure refer to corresponding parts.

This machine is, as exhibited in the engraving, for grinding and pressing apples, but it is also so constructed that it may be changed into a straw or vegetable cutter, as will be hereafter described.

When used for grinding and pressing apples, the fruit is poured into the hopper, N; it is then crushed by the serrated plates on the cylinder; G' (fig. 2), which is upon the shaft, G, and is rotated by the pinion, D', gearing with D, which is turned by the crank, C. The ground apples (pumace) fall from this hopper into the tub, K, and the juice is expressed by the follower, J, forced downward by the screw, H, working through the cross-piece, I.

When used as a vegetable or straw cutter, the cylinder, G', is removed, and the knives, S (fig. 2), are fastened with set screws upon the shaft in its stead. The straw is then placed in the box, M (fig. 1), and is fed up by the clogged roller, E' (fig. 1), the wheel, E, on the end of the shaft of this roller receiving its motion from the driver, F, on the shaft, P.

Potatoes, turnips, and other vegetables, can be sliced in a similar manner. The object of the invention is to furnish a machine which shall be convertible into a variety of uses, thus saving to the farmer the expense of

providing several machines for these purposes. As a cider mill alone, we should think it a convenient implement, enabling each farmer to make his own cider, instead of carting off his apples to a mill at some miles distance, and as it is portable, it can be carried readily from one orchard to another, more easily than the apples and cider carted back and forth.

But the great merit of the machine is, that after being used through the season of cider making as a mill, it can then be converted into a straw and vegetable cutter for the winter.

For any further information address the inventor as above.

THE NEXT STATE FAIR.

Public opinion, (and which we presume the committee having charge of the location of our next State Fair, will be guided by to some extent at least,) seems to have settled down in favor of Philadelphia as the place for the next exhibition. This is altogether proper. Two exhibitions have been held in the interior, one at our extreme western county, and the fourth should of course come to the eastern section of the State. Not only has it been ascertained that the requisite funds, whatever amount is necessary, will be forthcoming, but a highly favorable location, on what was formerly the Powelton estate, and immediately over the Schuylkill, with the river and railroad for easy access on either side, has been offered, and will no doubt be accepted. We predict an exhibition, which will eclipse all which have preceded it. There is probably more improved stock of different

kinds in a few eastern counties than in all the rest of the State. We understand the New York Society also intend holding theirs near the city of New York, which is another reason why Philadelphia should be the place, and we hope the times of holding will not interfere with each other.

GUENON'S SYSTEM.

Mr. James Gowen's allusion to the action of the Philadelphia Society for Promoting Agriculture, and the appointment of a committee to make test of Guenon's system, which he has chosen to denominate "sheer nonsense," has excited some feeling, as might have been expected, on the part of the very intelligent committee who subjected it to examination.

The report was published at the time in the Farm Journal, and as the committee are made by Mr. Gowen to give the weight of their names to "sheer nonsense," one of them has furnished us with the following abstract of the appointment and action of the committee.

We wish particularly to avoid bringing any *personal* issues before the readers of the Farm Journal. Our aim for it is to be a practical work, devoted entirely to the interests of the farming community, and we would be greatly obliged if our correspondents, all of whom we are anxious to give a hearing, would confine themselves as far as possible to the real points in question, without personal allusions or innuendoes. The great cause we are all anxious to promote requires this, and this only. Differences of opinion of course will exist, and their fair and candid discussion will be advantageous all around in eliciting truth. We have no ambition to make the Farm Journal a medium for angry and intemperate disputation.

Having ourselves firm faith, from our own observation, in Guenon's system, we much regretted on reading the Mercer address to find it stigmatised as it was, and which we consider to have arisen only from the want of the necessary *close examination* and study, and without which it will only mislead. If the mode adopted by the committee of the Philadelphia Society, and by the various committees in France, to put Guenon's system to the test and to *prove its correctness*, be not the right plan, we should really like to know how *stronger* evidence could be brought to bear on it. The continued incredulity of one or of several persons is not sufficient to outweigh their reports, and the *practice* of hundreds of our very best dairymen, who purchase their cows by this rule. If Mr. Gowen is *open* to conviction, we hope he may pay a visit to West Chester, when we promise to convince him by positive demonstration. The system, if true, is of sufficient importance to the interests of the farmer, which we know Mr. Gowen is desirous to promote, to induce him to spare a day or two in its investigation.

One of the committee of the Philadelphia Society writes us as follows, in reference to the plan they pursued and their appointment:

"The appointment of the committee to examine the probability of Guenon's system being correct and well founded, was made by the chairman, Mr. Gowen, in the usual and in an entirely regular manner. The gentleman who made the motion, Dr. Elwyn, was not in any way a convert to the system, neither then or now being

familiar with the details of Guenon's theory, but as Mr. Nefflin, the German farmer, stated that he was a proficient in the system, from fifteen years study and practical experience, it was thought an excellent opportunity to test its truth, and as far as possible do away with all doubt. A large committee was formed, and all the Society were requested to attend and witness the examination. A phonographic reporter was engaged, and every question that was asked, and every answer that was made, was produced; after this, as Mr. Nefflin did not understand English, his remarks were read to the owners of the cows, so as, in the most thorough way, to test his assertions. In all the cases Mr. Nefflin's remarks were substantiated by the proprietors of the cows. Several of the committee were first rate judges of the animal, and not to be deceived by any one. They were astonished at the result, and reported to the Society the whole proceeding. How a course so entirely regular and so perfectly impartial can be open to the unbecoming charge made by the Ex-President, it is impossible to imagine."

At our request, the gentleman who has been writing in the Journal on this subject, over the signature of "Science," has authorised us to mention his name, Eusebius H. Townsend, of West Chester. He has for several years given close attention to the subject, is often called on by *farmers* to buy their cows, and we have had ourselves repeated opportunities to prove his successful application of Guenon's rules.

We should be pleased if all our correspondents would be willing to write over their own names. Communications in this way go with more effect before the public, and particularly in cases where there are differences of opinion, and in discussion it seems proper that the one party, writing over his name, should know whose opinions he is combating. We think it also occasions a more moderate tone of language, and is on several accounts much better.

In relation to Guenon's system, in addition to other prominent farmers who have proved the system correct and have confidence in it, we are pleased to be able to add that of C. P. Holcomb, the distinguished farmer of Delaware, and favorably known throughout the country.

We have also lately seen a letter from Col. M. P. Wilder, of Massachusetts, to a gentleman in Philadelphia, in which he says:

"In answer to your enquiry whether the opinions formerly expressed by me, in relation to "Guenon's System of Judging Milch Cows," remain unchanged, I have to say, that I have reason to place great confidence in this theory. I have conversed frequently with the most intelligent and experienced breeders and dairymen of New England and other parts of our country, and have uniformly found the opinions of these gentlemen to coincide with those of Guenon—in fact, I have not yet met the farmer that has carefully examined this subject, and who does not agree with these views.

Respectfully yours,
MARSHALL P. WILDER."

This is additional testimony, from a quarter well known as good authority, both on agricultural and horticultural topics.

PENNSYLVANIA FARM SCHOOL.

We have been much disappointed that the project of a Farm School for Pennsylvania, to be incorporated by our Legislature, has been reported adversely upon by the committee to whom it was referred, and that there is some fear of its being defeated the present session. For the *credit* of the State, no less than its substantial interests, we hope this may not be the case.

We understand the principal cause of the adverse report was, that the bill provides for an appropriation of a few thousand dollars in aid of the project. We would advise the friends of the measure to waive this point altogether, so as to procure its passage, if this has really been the difficulty. Let us have the incorporation at all events, and that speedily. If the assembled wisdom of the Legislature do not perceive the great advantages, which will result from such an appropriation, (and we entertain no doubt whatever of it,) we hope they will be kind enough to give us a chance to *help ourselves*. Give us the opportunity, with the aid of the funds of the State Society, and what can certainly be collected by individual subscriptions through the State, to *start* the Pennsylvania Farm School, to commence the good work, which is really called for by the progress of the age and the example of States, both north and south of us. Including what has been already offered, and the funds of the State Society, an amount not much short of \$20,000 is on hand to begin with. This will suffice to purchase the land, alter or erect plain buildings, which may be extended hereafter, and when once commenced in the proper spirit, we have no fears but that it will attract and secure by its beneficial influence the confidence of the whole people of the State, and that it will eventually become an object of real State pride, and its happy influences be felt in every quarter.

We really feel indisposed to argue the subject of the propriety of a Pennsylvania Farm School, where our young men can obtain, in addition to a sound education, a practical and scientific knowledge of that business on which all others hinge, and which lies at the very basis of our strength and progress. It seems almost a slur on popular intelligence to say that such a measure is at all doubtful.

There is one supposition, and one only, on which we should suppose any objection can be made to a State Farm School, and that is, that the practice of agriculture in Pennsylvania is now *perfect*; that the land is cultivated all over the State to its most productive limit; that the nature of soils, their geological formation, capacities and requirements, are thoroughly understood; that agricultural machinery has attained the climax of perfection, and is in *general* use, and that the improved breeds of stock, adapted to each section, are fully disseminated. Are these things so? If not, there is something yet to be learned, and we consider it the duty of our Legislature to aid the accomplishment of these results by every means in their power. The proposed school will be laying broad the very foundations of all true wealth, which depends on productive industry, and the abundant supply of *raw materials*. Will any political economist, or even any school boy, say that the produce of land in Pennsylvania cannot be doubled, trebled, quadrupled, by superceding the wasteful practices of

even our best farming districts with improved and more rational systems of culture? Look at the average produce of wheat, corn or oats to the acre all over Pennsylvania, the average produce in milk and butter of the dairies, and we should like to see the man who would say there is no room for *improvement*.

The plan of a Farm School, which was sketched out a year ago by the committee of the State Society, so very full and comprehensive in its details, if carried out, as we have no doubt it would be if placed in the proper hands, would do more for the real prosperity of Pennsylvania than any legislative measure which has been enacted for years. It would make a permanent central point of attraction, not where the mere theory of agriculture would be *taught*, but where the true theory would be *proved*! It would be the *source* of knowledge, and instruction to the intelligent and inquiring farmer outside of it, as well as the young pupil within. Here would he resort to see the improved and various breeds of cattle, to investigate and become acquainted with their habits, peculiarities and diseases; here he would see, not merely the highly polished and finished implements of *interested patentees*, but the *practical* working and advantages of the best and most approved labor saving machinery, and by which he would be guided in his own purchases; he would learn something of the analysis of soils, the nature of manures and their correct and appropriate application, and in every department of farm management he would be able to see the application of correct and scientific principles. In the annual reports of such an institution, under a competent superintendent, would be found a real treasury of knowledge to the practical farmer, the benefits of which to our great and growing State, can hardly be too highly estimated.

Give us the law, and if you will not aid us with your (our) money, let us at least have the *chance* of making the effort to help ourselves. Save Pennsylvania from the disgrace of letting such a measure as this sleep for another year, or perhaps die altogether. Now is the time for action.

Journal of the United States Agricultural Society

Through the politeness of the editor of the above work, W. S. King, we have received a copy containing Nos. 3 and 4. It purports to be a quarterly issue. The present is one of the most valuable compendiums of standard articles we have seen for a long time. Several subjects of great interest to the farmer are very ably treated, and we shall take the opportunity to make copious extracts hereafter for the Farm Journal. We copy one article in the present number by Dr. Brinckle, "on the Duration of Varieties," and about which there is much difference of opinion. Like every thing else from the Dr.'s pen, it is handled with marked ability. There is an article also on Alderneys, which we commend to the attention of Mr. Gowen.

For the Farm Journal.

A FEW WORDS ABOUT ROSES.

MR. EDITOR:—As the season is approaching when farmers and owners of gardens generally are about fixing them up for the summer, I have thought a few words about roses would not be out of place at this time.

I place roses first in connection with a flower garden, for this reason, that no garden can be perfect without them, and the more of them the better, with colors from pure white to the deepest crimson; and the great length of their blooming season, from May to November, has obtained for them the enviable reputation of the Queen of flowers.

I was handed a catalogue of roses by one of our enterprising nurserymen a short time since, which contained a list of between five and six hundred varieties. To the uninitiated in rose culture this seems perfectly alarming, but one can breathe more freely when he knows that six to eight can be selected from a hundred and yet have a very good selection. I love roses and grow a good many of them, and the object of these few remarks is to name, for those who want, a small selection of roses which I have proved to be good.

I will begin with the Bengal or daily roses; Archduke Charles, crimson, pink centre; Indian, or pink daily; Cels, blush; Agrippina, brilliant crimson; Lady Warrender, blush white; Madame Breon, deep rose. The above are all good bloomers, and with me are perfectly hardy.

I admire the Bourbons as a class more than any other. With their fine double flowers and beautiful foliage they are hard to be excelled. Here are half a dozen Bourbons: Souvenir de la Malmaison, blush, very large; Hermosa, pink; Dupetit Thouars, crimson; Leveson Gower, bright rose; Mrs. Bosanquet, blush, changing to white; Lady Canning, dark rose.

The two following varieties I have found to make excellent pillar roses: Triomphe de la Duchere, bright rose, pale centre; Souvenir d'Anselme, bright red.

The Noisette roses are mostly runners; some of them are not as hardy as others. Here are six Noisettes: Chromatella, or cloth of gold, yellow, the finest yellow rose I have ever seen; Jaune Desprez, rose buff; Fellenberg, bright red; Ophire, yellow, tinged with red; Lamarque, white, yellow centre; Superbus, pink, large clusters.

The Hybrid Perpetuals, commonly called monthly roses, do not generally give satisfaction; the complaint is they only bloom once a year. Here is a few that may be exempted from that fault: Amanda Patenot, pale rose; Giant of the Battle, brilliant crimson; La Reine, rosy lilac; Marquise Bocella, pale pink; Pius 9th, deep crimson; Rivers, crimson.

I do not wish to be understood to say that the roses I have noticed are the best of the different classes, but that they are a *good* selection for those who want only a few.

Moss roses are deservedly great favorites in their season, but of all I have seen none equals the *old red* for its mossy bud. The perpetual white makes a pretty bud, but the flower, like the red, when expanded is trifling. The crested moss is very distinct, and like moss. Adelaides, when expanded, are good flowers of a pink color.

There are several other classes of roses, which are of little use in small gardens. I will mention a few varieties that are distinct and good: Persian Yellow, the best hardy yellow rose; White Mycophylla, white, with yellow centre; Prairie Queen, pink, fine for covering arbors.

The best Multiflora roses I have seen are Laure Devoust, pink, and Grevillia, or seven sisters, white to deep red.

Roses to do well must have deep rich soils. What miserable specimens we oftentimes see in the gardens around our town houses, and yet we are told there was plenty of manure put in the hole, and the soil is loosened very often, and they are watered with soap suds once week, but all to no purpose. But a little examination tells the tale, which, in nine cases out of ten, is this:—When the house is being built, the garden or lot is not exactly to the grade of the street; the consequence is a lot of cellar dirt, with the aid of a few brickbats supplying the deficiency, and the bushes are planted in it according to the rule described. The remedy is evident—take out the poor soil, and replace with good loam or soil from the woods, or any place where it is good, and I will venture to say you will have plenty of roses from May to November.

ROSA.

Chester county, Feb. 14th, 1854.

For the Farm Journal.

SUBSOIL PLOWING AND PENNOCK'S CORN DRILL.

OAKLAND FARM, 2d mo. 17, 1854.

J. L. DARLINGTON:—Thinking the result of my experiments with the subsoil plow the past season, which I procured partly at your suggestion, might interest some of the readers of your Journal, I am induced to offer a few facts in relation thereto.

The field, containing fifteen acres, intended for corn, was partly flat, the soil being a stiff clay, slightly intermixed with silicious gravel, the balance being high and loose. The former never yielding over 30 to 35 bushels; the latter was considered the best corn ground on the farm, yielding from 70 to 80 bushels per acre in good seasons.

It was the first of these portions, containing 7 acres, that we concluded to subsoil. It was first plowed seven inches deep with one of White's iron plows, Rodgers' subsoil following, loosening the earth about eight inches, making the whole depth fifteen inches. After plowing, the ground was well harrowed, and the corn drilled in with Pennock's corn drill, the rows being four feet apart, and one to two grains. 15 to 18 inches distant in the drills. There was no manure applied, either broadcast or in the rows, and the yield was estimated by several experienced corn growers at from 75 to 80 bushels per acre—an equal, if not greater yield, than the other half the field, which, as I before remarked, was good corn land. Had it not been for the subsoiling, the season being unfavorable, I do not think the amount produced would have exceeded one-third. I had thought the subsoil plow would have required a stronger team, but it proved to be the reverse, as one yoke of cattle drew the subsoil with greater ease than two yoke of equal size and strength did the barshare.

I was so much pleased with the effect on my corn, that I subsoiled the wheat ground, and from present appearances it bids fair to equal expectations, as it has preserved its rich green appearance all winter, and looks now like a watered meadow. The result can't be got at till harvest, and as my neighbor has his wheat adjoining on the same kind of soil, equally well manured and put

in the best manner, as he is noted for doing things nicely and skillfully, a comparison can be had when harvested and threshed.

To our valley soils I think subsoiling peculiarly adapted, more so perhaps than on the porous, light soils of the more hilly portions of the county. I anticipate great benefit to the grass crop, more especially to the clover, which even now, shallow as our soil is, in times of drought proves to be our main dependence, owing to its long roots running deep enough to be out of reach of the sun's powerful rays, and in winter it will be less liable to be thrown out by frost. Thinking its introduction would prove of more value, in our section particularly, than any improvement of recent date, I should be pleased to see it more generally adopted, believing from my own slight experience that stiff clayey ground, thoroughly subsoiled and the after preparation duly attended to, will yield a much better return than the usual mode of shallow plowing, even with the addition of a coat of manure.

While on this subject I must speak a word in favor of the drill, as it is a novelty in these parts. It did the work well—a man and boy planting the field (15 acres) in a day and half—a great saving of labor, without mentioning other advantages, which is a desideratum now farm laborers are so scarce.

Yours truly,
GEORGE THOMAS.

For the Farm Journal.

FARMING IN SUSSEX.

MR. EDITOR:—In glancing over some back numbers of the Farm Journal recently, I noticed a communication from a "Delaware Farmer," hailing from New Castle county, and "running his rigs" upon "sandy Sussex," as he is pleased to style our county. If it is not trespassing too much upon your good nature, I would like to say a word or two in this matter, and give you a brief outline of our manner of farming.

We consider Sussex county as well adapted to agricultural purposes as any part of Delaware, and susceptible of as high a state of cultivation. There is a vein of land running through our county, and, indeed, extending across the peninsula, that is very sandy. This tract is known by the name of the "sand hills," and is altogether made land, having been at no very distant period a strait or bay, connecting the Atlantic Ocean with Chesapeake Bay. With this exception Sussex county is generally a clay bottom.

In manuring our land we use both guano and lime liberally, but principally the latter, as we find lime to be a better fertilizer with us than guano. The guano generally makes one good crop, and pays very well on corn and potatoes. With three hundred pounds to the acre, we can average four hundred bushels of Irish potatoes, or about fifty bushels of corn. But our second crop finds the land very little better from the application of the guano.

We generally put from fifty to one hundred bushels of lime to the acre, during July or August, if possible to get it at that time, having learned from experience that lime spread, at that season of the year, upon a good crop of clover, or other vegetable matter, will pay the farmer twice the amount, in the first crop, that it will if

spread on the ground in the spring, and immediately turned under for seeding.

Our land is not so well adapted to growing wheat, and we pay less attention to it than our friends in New Castle county. Some of our farmers, however, raise very good wheat crops, equally as good as New Castle county can do with the same expense. One of your correspondents from that county, tells us that he harrows his ground three times, puts four hundred pounds of guano to the acre, drills it twice and rolls it, and raises from thirty to forty-seven bushels per acre. We harrow our ground once, and drill it but one way, seeding two bushels per acre, and realise from thirty to fifty bushels per acre, (I mean on such land as we have suitable for wheat.) But there is a large portion of our land, too low and wet for wheat, that will produce every year, without any rest, from fifty to seventy-five bushels of corn to the acre.

With this brief and hasty sketch of the state of agriculture "down in Sandy Sussex, where the farmers have to hang up their plows at night to keep them from being lost in the sand by morning," according to the account given of us by your New Castle correspondent, I would tender him our thanks for the interest manifested in our behalf. Nevertheless the most of us down here are so wrapped up in the "darkness that covers the land," that for the life of us we cannot take in the idea that New Castle county is "the bright particular star" in the agricultural firmament of our little State. I have lived neighbor to that county for half a century, visited their farm houses, schools, churches, &c., and returned home with the impressions I started with, viz: that there was "room for improvement" in New Castle as well as in Sussex!

But we must "own up" that New Castle is ahead of us in some things, for instance, the *Sheriff's Office* is worth five times as much as it is in Sussex! With less pretensions to greatness, we eat our pork and beans, smoke our pipes, and read the Farm Journal, without his sheriffship coming to "molest us or make us afraid." But I am trespassing on your time, Mr. Editor

Yours, &c.,

Primehook, Jan. 20. A SUSSEX FARMER.

For the Farm Journal
SMOKY CHIMNEYS.

MR. EDITOR:—I observe an article in your Journal, taken from the Scientific American, entitled "a remedy for smoky chimneys," which may be calculated to strengthen the already prevailing opinion of the mason, that the draught of chimneys depends primarily upon the conformation of the flue.

This is an error that has led to much injury in the erection of chimneys. Draught in chimneys depends altogether on scientific principles, and the laws by which it is governed is as invariable as any other of the laws of nature. That a chimney may draw well, the flue must be *perfectly air tight*, that is, it must be "*well parged*;" 2d, it must be of sufficient height, 18 feet is sufficient, to give draught to a close stove, and may answer for a fire-place in many situations where there are no eddies of the atmosphere occasioned by high adjacent walls, and where the area of the opening of the fire-place is not too large.

It must be remembered that smoke and heated atmosphere is of lighter specific gravity than common air, and arises in the flue, occupying the whole space of the flue, hence if cold air is permitted to enter the flue, either at the fire-place, or in any part of the flue, the draft will be diminished, and the chimney will smoke, especially if the situation of the chimney is such as to be liable to a downward current of wind from without, or in stormy weather. In situations where the stove pipe or chimney blows down, the best remedy is a cone on the pipe, or a flat plate over the top of the flue, sufficiently high, say 15 inches, above the top of the flue or pipe to let the smoke have a free passage out in every direction, and wide enough to prevent the current of air from blowing down, say 4 inches wider than the flue on all sides.

H. P.

For the Farm Journal.

THE REPORT ON DAIRIES.

MR. EDITOR:—A writer in your February number complains of the imperfect report of the Committee on Dairies of the Chester County Agricultural Society, as being calculated to mislead, rather than benefit, the public. So far as came to the knowledge of that committee, the account as published is correct. They stated the amount of butter made, the price sold for, the amount received for calves, the worth of the refuse milk in pork, the expenses of manufacturing the butter and getting it to market, the interest on cows, fixtures, &c. Does "J. B. G." suppose that the Messrs. Dickey paid \$179 70 for merely making the butter and preparing it for market, that he enquires after the salaries paid for help to feed, milk, &c.?

Had the committee attempted to estimate the wear and tear of fixtures, and the depreciation of the cows by sickness, death, or old age, they would most likely have made a very imperfect one, and calculated to mislead the public, as they confess their inability to figure out how long cows will be likely to live, or what will be the wear and tear of crockery and milk pails in a year's time. In regard to the depreciation of stock, however, the committee stated that the Messrs. Dickey, by their judicious management in introducing improved breeds, will add yearly a large per centage to the value of their dairy stock. For facts in regard to this matter we need only refer to our townsman, A. Bolmar, Esq., who commenced his dairy a few years ago with selected common stock, and by the introduction of the Durham has now one of the finest dairies in the State. Instead of its decreasing in value, it has increased more than one hundred per cent. So it will be with every rightly managed dairy—instead of depreciating, the stock will be continually improving and becoming more valuable.

ONE OF THE COMMITTEE.

Centre County Agricultural Society.

Extracts from the minutes of the annual meeting of the Society, held at Bellefonte, Jan. 24th, 1854.

The President, Hon. Geo. Boal, in the chair. The subject under discussion being the "Improvement of Stock," Mr. Samuel Gilleland presented the following preamble and resolutions:

Whereas, it is an admitted truth among farmers that an improvement of their common breeds of stock would

prove highly advantageous to their interests, and can by proper efforts be readily introduced among them, and whereas, from the fact that so many inferior, worthless and scrubby seed animals run at large throughout our State, it is impossible for those who are desirous of improving their stock to secure so praiseworthy an object;

Therefore, resolved, that in our opinion, the levying of a suitable and reasonable tax by the State on all stallions, bulls, boars and rams, would have the effect of soon replacing inferior animals by those of a superior breed and quality, and thus prove of essential advantage to the farming interests and to the breeder of stock, and also secure to the treasury a handsome fund to be applied towards the liquidation of our State debt.

Resolved, that a copy of the foregoing be forwarded by the President and Secretary to our Senator and Representative at Harrisburg, and request them to lay the same before their respective Houses, and also urge the passage of an act of Assembly in compliance therewith.

Mr. Gilleland addressed the Society at length, urging the adoption of the resolutions, and producing calculations showing the amount to be derived throughout the State by the passage of such an act of Assembly.

The resolutions were unanimously concurred in.

GEO. BOAL, President.

GEO. BUCHANAN, Secretary.

SEED POTATOES.

One of our friends, a very close and intelligent observer as well as good practical farmer, has been in the habit for many years of selecting the largest and finest potatoes for seed. Those who have purchased of him have long remarked one *peculiarity* about them not found elsewhere, that they are nearly all of a uniform size, with no small ones mixed through them. His neighbors have observed this without knowing the reason, which our friend attributes *entirely* to selecting the seed as above for a course of years, and thus establishing the *size* as a permanent characteristic. That like produces like is the foundation of all improvement in both vegetable and animal life. The advantages respectively of large or small potatoes for seed, have long been before the public, and the question has generally been decided after the trial of a single season, or two seasons, when the effect would not be so perceptible. Here, on the other hand, are the *results* from *continued* care for a course of years, and we consider them highly interesting and important.

Since penning the above, we have received the following communication from our friend Wm. Jackson, which throws further light on this important subject:

IMPROVEMENT OF THE POTATOE,

By a proper selection of Tubers for planting.

My attention was particularly attracted to this subject about forty years ago, by frequently observing a marked difference between the potatoes raised by my brother (since deceased) and those which we raised at the homestead, where I resided. His were almost uniformly large and finely formed, and when viewed in mass were much superior to ours in appearance. They were, however, from the same stock, and the two farms were adjoining, and were very similar in soil and state

of cultivation. He, however, had been for several years in the practice of selecting his seed potatoes when he gathered his crop, and of laying aside for that purpose none but well grown and well formed tubers; while our practice had been to put the potatoes in a heap in the cellar for the family to select from as they were wanted for use, until planting time came round, when the best of what was left were selected for seed. These different processes were thus carried on side by side, with the same stock of potatoes, for eight or ten years, with the result above noted, a result which was very striking and constant for several of the last seasons. At length the Mercer potatoes were introduced by both families, and no opportunity for a similar comparison has since occurred. Since then the subject has been too much neglected, though occasionally I have selected my seed with much care for two or three years in succession, and I have believed that the quality of the produce was improved in such cases; but not being in the way of raising potatoes much beyond what was necessary for family use, I have sometimes been scarce of seed, and have been led to plant tubers of an inferior quality, so that what I gained in one period has been to a large extent lost in another from want of the necessary care and attention. Last season I planted a small lot with a very large proportion of branching irregular and ill formed tubers, cut into pieces as usual; while from another lot such potatoes were carefully excluded, and when we compared the produce of the two lots with each other, it was found that its character corresponded in both cases in a marked degree with that of the seed planted.

These imperfect observations seem to show that considerable improvement may be made in the quality of the crop by a careful selection of seed, but I am not able to say that the quantity was increased by such means. Almost uniformly an increase of size seemed to be connected with a diminution of numbers, so that the quantity did not appear to be materially affected, though no careful comparisons were made to determine the point.

The general law or principle indicated by the above facts is obvious, and it is observable in almost every department of animal and vegetable life. It may be stated thus, viz:—There is a tendency in individual plants (particularly when under cultivation) to assume occasionally some peculiarities of constitution and habit of growth, and there is a further tendency in nature to transmit these peculiarities to succeeding generations. Thus some potatoe plants acquire the constitutional habit of forming comparatively few tubers, and as a natural result developing these more perfectly, so that by planting these and these only, we may bring our stock to consist mainly of such individuals as possess this peculiarity of constitution. In the same way any other desirable property may be propagated whenever a tendency to it is observable, provided it be not inconsistent with the health and vigor of the growing plant.

It is this tendency in individuals of a species to assume peculiar properties, which has given rise to all those improved forms of fruits, flowers and vegetables which fill our orchards and gardens, and which add so much to our enjoyment that we may well consider it one of Heaven's best gifts to man. It is, however, most frequently manifested in plants which are raised from seed,

though it is not confined to them as we have abundant proof in different classes of vegetable productions. Among tulips for instance I have frequently observed it. Many instances have occurred in my own garden, where individuals of this species have assumed peculiarities of stripes and shades of color, after the parent stock had been cultivated by offsets from the roots for a number of years; and where pains were taken to plant them, they have generally maintained their distinctive characters so as to form new varieties.

It must be admitted, however, that such changes as those referred to are few, when compared with those which take place in plants of this species when raised from seed; for among such the varieties of form and color seem to be limited only by the number of plants you have propagated. So it is also with the potatoe; if you raised plants from seed you may expect to have almost as many varieties as you have individuals, and many of these will be widely different in appearance and habit, so that you may occasionally develop a very superior variety.

But although the range of the modifying power, which may be brought into action when we propagate from divisions of the root, is not sufficient to produce very great changes from the parent stock in the case of potatoes, I am well satisfied that it is sufficient to improve the quality in some important particulars, so that it will make an important difference in the course of a few years whether we select the best or the worst of our crop for planting.

And I would advise every one who wishes to cultivate only good potatoes, to avoid doing as I have done, that is, leave the selection of seed potatoes till the cooks have picked out the best, but let him regularly select his seed from the head of the heap when he gathers in his crop, for in this way only can the advantages of selection be fully realised.


I am fully conscious that the facts referred to have not been observed with that care and attention which is necessary to guard effectually against error, or with that particularity which is needed to define them with clearness and precision; yet I fully believe that they are in the main correct, and that the conclusions drawn from them may be of advantage to those who would cultivate this delicious vegetable to the best advantage. In this belief these remarks are offered, and such as they are they are at the service of the Editor. W. J.

Harmony Grove, 2d mo. 8th, 1854.

For the Farm Journal.
IMPORTANT RECIPE.

To one quart of new milk, add one pint of warm water before it is strained, and it will increase the quantity one-third. This is of great importance to the numerous milk sellers of Delaware and Chester counties; first, by increasing their profits, which is of some consequence to them, and secondly, they can supply more customers with milk, which is a wholesome luxury at this season of the year. J. S. G.

Media, March 1, 1854.

 The proceedings of the Pennsylvania Horticultural Society came too late for insertion in this number.

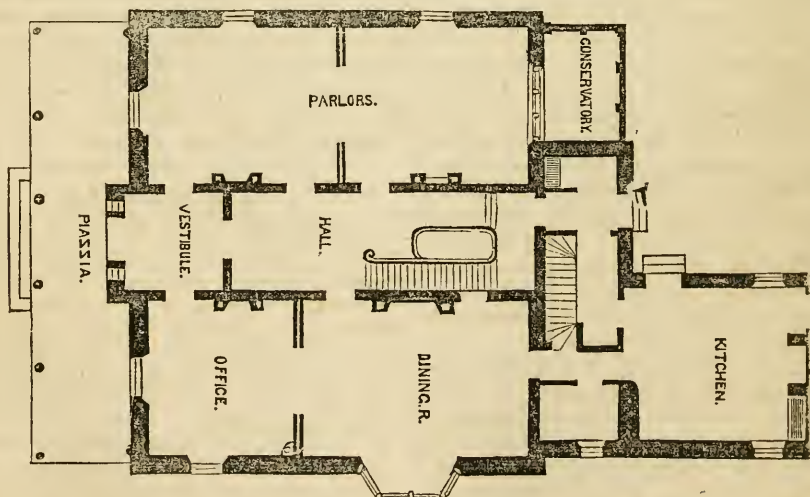


PIERMONT.

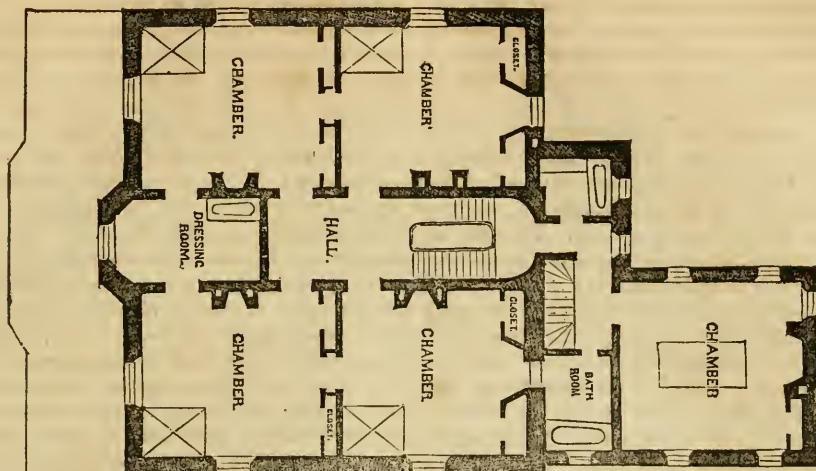
The annexed engravings represent the beautiful residence, with ground plans, of GEO. PEPPER NORRIS, Esq., near Wilmington, Del.—a fine specimen of pure Gothic architecture. In the absence of a detailed description of this very complete and elegant country seat, which was promised but failed to reach us, we will briefly mention that the building has been finished and furnished with all the luxuries and conveniences of modern life; the out houses conform in style to the architecture of the

main dwelling; the grounds are being tastefully laid out and planted with trees and shrubbery, and the whole premises bear the impress of the good taste and liberality of the proprietor.

The building is constructed of blue granite, taken from quarries on the farm, and being situated on a commanding hill near the city, is a prominent object of attraction to the neighborhood. The building was designed by John C. Carver, Architect, of Philadelphia.



Ground Plan.—First Story.



Second Story.

Sullivan County Agricultural Society.

The annual meeting of the Sullivan County Agricultural Society," was held pursuant to the provisions of the constitution, on Monday, the 9th day of January, 1854, at the Court House in Laporte.

President—Richard Bedford.

Vice Presidents—Wm. Colley, John F. Williams, John Hiddleston, Hugh Boyles, Moses Rogers, John D. Wilcox, Enoch Howell, John J. Saddler, John Perkins.

Recording Secretary—Wm. Meylert.

Corresponding Secretary—J. C. Wilson.

Directors—Lewis Zaner, Jonathan Colley, James Taylor, Wm. Molyneux, Wm. Glidewell, John Battin, Chapman Baldwin, John A. Speaker, Frederick Taylor.

On motion, Resolved, That the next Annual Fair be held at Laporte.

The meeting then adjourned. WM. MEYLERT, R. S.

NATIONAL POULTRY EXHIBITION.

We are pleased to learn that at the National Poultry Show, held at Barnum's Museum, New York, last month, the noble specimens of Cochlin Chinas, imported by Wm. C. RUDMAN, Esq., Philadelphia, and figured in Farm Journal of last May, took the first premium—a silver cup, value \$20. These same fowls took the first premium at the New York State Exhibition, held at Albany last month, also. The *Black Spanish Fowls* of our friend Rudman, figured in last volume of Farm Journal, also took the first premium at the Albany Exhibition.

We pronounced these fowls the finest specimens of the kind we had ever seen, at the time of publishing their portraits in the Journal, and we are happy to be thus confirmed in our good opinion of them.

SOUTHDOWN SHEEP.

This Buck (see plate) is an excellent portrait of a superior Southdown Buck, which has taken the first premium at two of our State Exhibitions, (the last one at Pittsburg,) and is probably the best buck of this breed south of New York. The engraving is highly creditable

to the skill of the artist, Edward Clarkson, of Philadelphia, and also to Dr. Charles Carpenter, of Marshalton, a few miles from West Chester, who drew him from life, and has been very fortunate in catching his true form and character. To draw correctly an animal portrait is an attainment possessed by the very few, and from other specimens we have seen from Dr. Carpenter's pencil, we think he only needs practice to make him eminent in this line. The buck before us develops finely the valuable points of the Southdown sheep, in the round, barrel shaped, compact carcass, full and heavy hind quarter, with a slight rising on the loin, which are the parts of most value to the butcher and consumer.

This breed of sheep have of late been attracting much of public favor, and for attaining weight, within a certain compass or size, we believe they are unsurpassed. The fine and delicate flavor of the mutton is also everywhere esteemed. They are extremely hardy, will *thrive* where other breeds would hardly live, and either on the thin and chalky hills of Devonshire, or on rich pastures, they seem equally at home. In this neighborhood the flocks of Joseph Cope and John Worth have been bred with great care, and contain some beautiful animals, which have been sent at different times to various parts of the Union. J. Cope visited England some years ago, and brought home some valuable specimens from Messrs. Grantham and Ellman's flocks, and they have also obtained valuable crosses from some of the best breeders of Downs in New York State. In this vicinity, on our rich and strong pastures, many of their animals have attained a size and perfection not often met with elsewhere, and which has been the admiration of strangers. The fleece of the Southdown is of a medium quality between the coarse and fine wools.

Jonas Webb, of Babraham, Cambridgeshire, is the most distinguished breeder of Downs at present in England, and has taken most of the prizes of latter years at their exhibitions. Colman, in his European agriculture, speaks of being present at one of his annual lettings, when 177 of his bucks were *let* for one season, at public

auction, to the highest bidder, at prices from £7 to £50 each; a large proportion between £20 and £40. This will give some idea of the way they are estimated in England. To those who wish to purchase Downs, we recommend a visit to the flocks of our friends Cope and Worth with entire confidence.

WORK FOR THE MONTH.

FARM.—Sow clover seed on wheat fields, before the ground gets settled, at the rate of 5 or 6 quarts per acre. Timothy, Italian rye, green grass, &c., may also now be sown, if not done in the fall. Use none but clean seed. Plough ground and put in oats crop as soon as the weather will admit, sowing not less than from 2 to 3 bushels per acre. Pass a roller over after harrowing. Roll mowing and recent pasture ground. This settles such roots as have been heaved up by winter. Sow plaster, one bushel per acre, over all the grass fields. This should be done this month, so as to have the benefit of moisture in the soil, and spring rains. The ammonia in rain water, by combination with plaster, forms the non-volatile sulphate of ammonia. The effects of plaster are not so observable in a very dry season. Guano mixed with plaster may also be sown with advantage as a top dressing to grass lands, in a damp spell of weather, or just previous to rain; but superphosphate of lime for this purpose is preferable. Haul out manure from the barnyard for corn and potatoe crops, which are gross feeders, and require it; using for the wheat crop in fall guano and superphosphate of lime, thus making *more corn and more wheat*. Hire an extra hand or two for a few weeks, to accomplish this in season. The fermentation of the manure in the soil stimulates the early growth, and affords food for the maturing of the crop. Plough deeply and subsoil corn ground. Top dress winter grain which was not manured last fall. Plant potatoes for early crop, as soon as ground will admit. Give particular attention to cows which have calved, and ewes having lambed. Succulent food, such as turnips, carrots, beets, increases the flow of milk, and should always be given in addition to grain and hay. Feed the mothers well, is the true plan to make good lambs. Have a piece of early pasture ground to turn them on. Give extra feeding to working cattle. At leisure times, clean out thoroughly and whitewash poultry houses inside. Pick stones off mowing fields. Open the mouths of drains.

FRUIT ORCHARD.—Attend to directions of last month, and perform what was omitted. Planting of trees in this section can be done during this month. Select the best varieties of fruit trees, and plant apple trees from 35 to 40 feet apart; peach, pear, plum and cherry trees 20 feet apart; dwarf pears from 10 to 12 feet apart. Grafting may be done this month. Prepare grafting wax by mixing three parts of bees wax, three parts of rosin, and two of tallow. Plant out gooseberry and currant cuttings, first removing all the lower eyes. Trench and prepare the ground thoroughly with short manure. Grape vine cuttings should be planted with two eyes out of the ground, and in a soil rather sandy and moist. Trim grape vines at once, if not already done, and dig in around the roots well rotted manure. Strip off of all trees cocoons and larvae of insects, and apply wash before recommended. Apply salt to quince trees. Manure and clear up strawberry and raspberry beds, and make

new plantations of each. Uncover such of the latter as were laid down last fall for protection.

VEGETABLE GARDEN.—The operations of the garden for this month must depend on the weather, and the condition of the ground. Seeds not easily injured by frosts should be sown, such as peas, beets, parsnips, lettuce, radish seed, onion seed and sets, early carrots, asparagus seeds for new beds; and plant out two year old roots, cabbage seed, &c. If the weather is suitable, cabbage, lettuce and cauliflowers may be planted out from frames. Uncover spinach, parsley, lettuce, &c. Trench ground for horse-radish, and set out pieces of old roots in rich soil. Dress up rhubarb, and manure thoroughly if not already done. Give close attention to frames, &c., and cover on cold nights. Give air on fine days. Tomato, pepper and egg plants, which have grown thickly, should be pricked out into other frames. Start Lima beans in sods inverted, within doors, so as to be ready for planting out for early crops, so soon as the weather is settled. Set out beds of sage, sweet marjoram, winter savory, pennyroyal, and other perennial herbs, by dividing the roots of old plants. Plant sweet potatoes in hot beds for sprouting, and cucumbers in frames for forcing. As a general rule in gardening, make deep soil, manure heavily, and use plenty of seed. Better to thin out than have to re-sow.

FLOWER GARDEN.—This is a busy month in the Flower Garden. Remove the covering from the roses, and all half hardy things. Loosen the fastenings of junipers, Irish yews, &c., by which they had been secured against winter storms. Prune roses and flowering shrubs. To prune roses, observe in the running varieties, to cut as much old wood as possible, leaving only shoots of the previous summer's growth; shorten them one-third, and secure them firmly to the trellis or stake. Daily roses treat as above, only shorten their shoots two-thirds. The Hybrid perpetuals and hardy garden roses should be pruned back to three or four eyes of the old wood. Roses will give more satisfaction by being closely pruned than otherwise. In pruning shrubs, cut out any dead wood; thin out the branches where they crowd each other; shorten any straggling branches; by this means they will assume a good shape. Secure honeysuckles, clematises and other running vines firmly to their trellises. Manure liberally roses and flowering shrubs. This is a good time to plant all kinds of shrubbery and evergreens, and all kinds of hardy biennals and perennials. All such as have grown too large should be taken up, separated and replanted immediately. Remove the covering of leaves or litter from the tulip beds, or other articles which had been protected by them during the winter. Tulips, hyacinths, and all other hardy bulbs, may be planted early this month. Trim and replant box-edging. Manure and dig flower beds. Sweep clean and roll well lawns and grass plats. Laying sod should be attended to this month. Clean and roll gravel walks, and make every thing look neat and clean. Now is the time to raise annuals from seed for early planting. Plants in windows which have done blooming, should be removed to a cooler place, and their shoots shortened considerably. Plants in cellars should have air admitted to them freely in mild weather, and be watered more liberally than during winter.

AGRICULTURE IN EUROPE--No. 3.

Leipsic, Dec. 17th. 1853.

Winter in Germany; rambles in the neighborhood of Leipsic—Country wagons—market productions—rape seed oil, &c.

ETHEMED FRIEND:—The chilling blast of winter howls around this inland town, and all the beauty of the foliage and verdure in its suburbs, are exchanged for the glistening snow that covers the ground, and hangs in icy wreaths upon the trees. There is little at this season of the year, to be seen in this part of the country that will be of much importance to the farmer. One who like your correspondent, has been habituated, to the scenes of rural life, will on changing his residence for that of the city ever long to stroll by times amongst the more familiar objects of the country. Leipsic presents excellent opportunities for the gratification of this desire. No town that I have ever seen in the United States affords an equal opportunity for enjoying all the beauties of the country, so very close to the town. Indeed I might say we have the country, *with even its lonely forest*, almost directly in the town. In half an hour's walk from the center of this town of 65,000 inhabitants one can find himself in the silent depths of a dense forest, where no sound strikes the ear, save that of the squirrels, the birds and other things that pertain to untamed nature. It is needless to say that I have sought repose from the busy scenes of the city in this quiet forest; but now that the cold blast of winter howls through the naked trees, their enchanting solitude is gone.

But there is not much in either town or country, that is calculated to remind the traveller of the scenes of home. The recollection of fences, will fast fade from his memory, as he roams over the plains of Germany, where no fence meets the eye. At first it appeared odd to see roads leading off across the fields with grain on either side, and no fence to protect it. But this grows familiar, and even now, I think a glance over a land where hills and vallies are marked with fences, would present quite an interesting spectacle. The forest I spoke of, is on the western side of the city. A short time since, while the sheep yet nipped the green herbage of the meadows, and the sun shone more pleasantly upon them, I took a walk into the country in the direction of this forest. The road leading to it passes off through meadow land, much of which is now overflowed, and to render it passable during wet weather the road is raised a few feet above the meadow land. Being thus elevated it renders the traveller quite conspicuous, as he rides his horse, pulls his little wagon to market, or drives a delapidated two horse wagon with only one horse to it, attached to one side of the tongue, (this being a very frequent way of going to market.) This meadow land can be used only for pasture, except at great expense in preparing it for the plow. The river runs on one side of it, and on the banks of the latter in one place I observed a nursery of young trees designed for ornamental purposes in part, but more particularly to set out in the low swampy ground to raise timber from. The center ground of the nursery, embracing three or four acres was raised about four feet above the level of the meadow and surrounded by a ditch to keep the water drained off.

Beside the nursery were several very large compost heaps. Every possible resource is made available to supply material to the soil. The land is a black clay; being used in large quantity to make brick, though the latter are as black as though they were made of Chester county swamp mud, still they are burnt, when they become red. This clay extends to the depth of about 7 or 8 feet, and rests on gravel. The river washes this gravel from beneath the clay, and the latter falls in, carrying with it bushes, weeds, roots and other organic matter, which mingles with the loose sand thrown

up by the floods. This sand is just what the clayey land wants; and so much organic matter as might be contained in an arm load of roots, would be entirely too much to lose where labor is as cheap as it is here, and accordingly these marshes of clay, sand, gravel, roots, &c., are thrown out in large quantities and mixed with various materials, such as street scrapings from the town.

These piles after standing long enough to allow decomposition of the organic matter to some extent, are thrown upon the cultivated land. The theory of this mixing immense quantities of sand with clayey land, to bring it to a proper mechanical condition, is a good one, but for practical purposes it requires rather much labor for a country like ours, except in the neighborhood of large towns, or where the farmer has sandy earth that must be removed for other purposes.

Crossing the river on an old bridge I entered the forest. By selecting the least frequented paths a few moments found me in the silent woods, with the quiet inmates of the forests, with huge stumps that looked as though they had stood the blasts of centuries, around me. To stand in the solitude of the woods, with the stately trees arching over head and shutting out the sunlight, and the thick under brush filling up the interval beneath I could almost forget that a town was near. The large trees are principally left untouched by the axe, while such of the smaller ones, as would interfere with each others growth above are selected by the woodman. Hence, instead of seeing the havoc of the backwoods-man who falls the large trees upon the small ones and brings all down together in one general crash, we see only here and there and close to the ground, the stump of a little tree, that has been deemed an intruder upon the means for proper development in the others around it. Following a narrow path for half an hour, I met a hunter with his dog and gun. (This will give an idea of the extent of the woods.) It is a great addition to the health and comfort of the inhabitants of a town, thus to have some place to ramble in the pure fresh air, away from the bustle of the street. Leipsic is well supplied with such places and who ever sees them and contemplates their worth must feel that too little pains are taken to secure such things to our American Towns, while they are yet in their infancy. On the meadows I noticed several flocks of sheep that in the absence of fences were guarded by a boy who watches them during the day; and as the evening comes on, he steps out before them and calls, they all flock around him, and he moves off towards the sheep pen, which sometimes is in the town. The sheep seem to have become so familiar with the boy that they crowd around him, more as though he was one of their number, than their driver. He comes into the town with them crowding before and behind him, from one side of the street to the other.

The sheep are of about an ordinary quality. The same remark is applicable to their cattle, while their horses are rather inferior, many of them in connection with their old wagons, not much unlike some that may be seen in the spring of the year in the southern part of Chester county, attached to "fish-wagons."

Their wagon beds are very roughly made, consisting of a rough frame such as is often used on wagon wheels to haul in hay. The axletree extends about 5 inches through the hub, making an excellent affair to pull down bar posts had they any fences; and what makes it look still more odd, is a brace that slips on the end of the axletree outside the wheel and is returned in its place at the lower end of the linch pin, while the other end extends up, and is attached to the railing of the wagon bed, to keep the latter from spreading when loaded.

They have no determinate size for their wagon wheels,

and we see them of all sizes from those drawn by old women and dogs, to those taken by two horses: in every case the place of chains being supplied by ropes to draw with. Such are the objects that attract the farmer's attention on getting upon one of the roads leading west of town.

There are in the low lands bordering on the woods, already noticed, large tracts of ground that have been planted with trees; and so close together are they, in the wet swampy ground, as well as on that which is somewhat dry, that I rambled amongst them sometime, supposing I was enjoying the scenery of the vegetable kingdom as it came spontaneously from the earth, before I noticed that all the trees were as regularly arranged as the corn hills in a cornfield. But the larger trees in the forest do not present this peculiarity.

I have not yet been sufficiently far from town to get beyond the vegetable raising districts which extend for several miles around where the land is sufficiently elevated to avoid the floods of the river. Hundreds of acres without a fence are used to raise such vegetables as are generally confined to our country gardens.

Late in the fall, we see the remains of a crop which can be distinguished for miles across the country, by its deep yellow flowers, upon examination they prove to be of the Natural Order Cruciferae I think the *Brassica Napus* from which they extract large quantities of "rape-seed" oil.

I am now writing by the light produced by burning it. It is decidedly the best thing I ever met with for the purpose. Our ordinary oil is not easily procured of a good quality, (at least such was my experience in Chester county,) candles burn down and leave a greasy residue, and burning fluid is not at all times safe, besides the products of its decomposition are injurious to the eyes. But this rape oil combines all that is good, with nothing objectionable about it. And German lamps are well worthy of imitation being so constructed as to allow one to fill it and regulate its light without getting soiled fingers, a matter of no small importance either to those who use the needle or the pen.

I have been thinking seriously whether the manufacture of this oil could not be carried on profitably in the United States. I intend to visit the place in this city, at which it is manufactured after which I shall detail to you the method of doing it. In the meanwhile if any one of your readers is disposed to try it, I shall be very happy to send over the seed in time for a crop next summer; Will not some one volunteer to make an effort to introduce it. Perhaps some one has tried it; or at least calculated the cost of so doing; if so he must pardon my ignorance on the subject.

It might be remarked that the oil sells here at about the same price as ordinary, or rather inferior oil, in the United States, while other vegetable productions generally are rather dearer, if there is any difference. I remain yours, E. P.

Notes from an Address delivered by Philip R. Freas, Esq., before the Tredyffrin Agricultural Society, Dec. 10th, 1853.

MR. EDITOR;—I hope, on the reception of this, you will admit that something more than a "promise" (as you said in the "Farm Journal" of the present month) of a notice of Major Freas' Lecture has been received, and also hope, that the author of that interesting and valuable discourse, will excuse me for the privilege I have taken, and if I have made any errors that he will correct, or apprise me of them. Such an address is well worthy of publication, and if I have erred on any point, it is in not giving him the credit he deserves. In respect to "the Major," all that I need say is, that THE LADIES WERE DELIGHTED WITH HIM AND HIS LECTURE—what more need I say in favor of it?

But to the Lecture—what did he say, and can we profit by it? Let your readers peruse and consider these notes, practice their precepts, &c., then report to us through your valuable Journal, and we shall be better able to decide whether they profit by it or not, certainly if they read, they will find much of interest and worth. I. R. W.

After a few preliminary remarks; Mr. Freas stated the subject for his discourse. "*Practical Horticulture, in its relations to Agriculture.*" He stated that this subject, more than any other connected with Agriculture, had engaged his attention principally on account of its being more neglected on the part of farmers, than any other, though, he considered it by no means the least profitable of the farmer's business, even in a pecuniary point of view. But, said he, when is added to this the comfort, and pleasure which it bestows, and the harmonizing influence which it exercises on the family, it transcends within its limited sphere, all others in its social character. In passing through the country at the proper season, there is nothing so pleasing to the eye, or so grateful to the feelings, as a comfortable looking dwelling surrounded by choice shade trees and having attached to it a spacious, well laid, and well attended garden. But I regret to say that this cheerful sight, this almost certain index to a happy intelligent family, is not encountered so generally as it should be.

He then proceeded in a conversational, plain and practical manner, to communicate the plan on which he cultivates his farm of two acres.

Mr. Freas is an ardent lover of horticulture and agriculture, and has for many years endeavored to call the attention of the public to the importance of these subjects—in fact, I have been informed, that he was the first person in, or out of Pennsylvania, who introduced an agricultural department into a newspaper, which idea he conceived, when an apprentice boy at Norristown, Pa., and has steadily preserved in it from his *debut* as an editor, to the present time, a period, I think, of more than twenty-five years.

In order to awaken the attention of the public to the subject, and also that he might practice what he so earnestly advocated, and recommended to others, Mr. Freas, about six years and a half since, commenced this species of agriculture on his own premises. The plot of ground which constitutes his vegetable garden is astonishingly small, in proportion to the amount it produces—223 by 82 feet. When this spot of ground came into his possession, it was a quagmire, impassable to man and beast, except in dry seasons, a spring of water, rising in an adjacent lot, passed through it, and the ground being low, a regular swamp was formed, covered with basket willow. Not intimidated by appearances, he set to work, deeply ditched the little stream and walled it—a French Drain was made and about 500 cart loads of earth hauled upon the plot. The whole was repeatedly plowed, and in a short time was ready for cultivation. His garden was laid out with great care, not forgetting to lay out the main and principal avenues of a good width, a very important feature, which should never be neglected. His success in the culture of vegetables the first year, was so encouraging that he extended the variety of the products the next year, and raised about three times the quantity consumed in the family, (consisting of ten persons.)

The following is the product of a season:

Four crops of corn, commenced using, July 11th, Onions, Lettuce, a general assortment of Herbs, Artichokes, Okra, Oyster Plant, Endive, quantities of Asparagus, celery 4½ feet long, 125 heads of Cabbage, (he always puts up a quantity of *Sauw Kraut* from the Drumhead Savoy variety) 6 kinds of beans fresh from beginning to end of the season, several kinds of Peas, including the Japan Pea, Cucumbers, Tomatoes by the cartload, Beets, Carrots, Radishes throughout the season, squashes, the marrow pumpkin, (considered the best) five baskets cantelopes, equal to to the best Jersey production, Egg Plants, Turnips; on a bed, 48 by 16 feet, he had 15

bushels of Carrots for horse food; besides at least a dozen other things, this garden contains five or six grass plots, 11 standard Pear Trees, 36 Dwarf Pears, 12 Dwarf Apple, 4 Plums, 3 Filberts, 10 Cherries, 3 Orange Quinces, a small nursery of Shade Trees, raised from the seed, 20 large Arbor Vitas, a Grapery, a Pigeon House, a large Fish Pond, a Flower Pit or Green House, 8 Hot Beds, 6 varieties of Raspberries, several varieties of currants and gooseberries; domesticated Blackberries, a variety of Flowers on either side of the main avenue, and yet this little plot of ground is not crowded.

The other part of this said *farm of two acres*, not occupied by buildings, contains about an acre, which is divided into two fields, which produced about 3 tons of prime Timothy Hay.

His plan of gardening is this—first of all he makes a list of everything he intends to plant during the whole season, placing the seeds or plants in regular succession as they may be wanted, with the date at about which it is necessary to sow or plant them. As it is almost impossible for a person engaged in other business to think of a particular thing he wishes planted at a particular time, this plan is very advantageous.

The remarks of Mr. Freas, upon the cultivation of sundry vegetables are so practical, and calculated to be useful, that I report them in full.

THE CARROT, he says, requires more than common attention, whether in the garden or field. As horse food he regards bushel for bushel to be worth much more than oats. They keep his horse in fine condition and his health is excellent. He makes it a rule to deprive his horse of half a peck of oats per day, and substitute half a peck of carrots; they should be fed without washing, and the half of this quantity at a mess. The carrot should of course be buried, and take from the pit only a sufficiency for three or four days, or a week.

The ground intended for carrots, should be loosened as deeply as possible by the spade and if plowed, it should be subsoiled. It should be particularly well manured and pulverized, the seed is very small and must come in close contact with the soil, to cause it to vegetate. Plenty of seed must be sown, of course in rows; if in the garden, 15 inches apart is enough, but in the field 30 inches. Care must be taken to cover the seed but slightly, and press the earth upon it, when two or three inches high the plant should be thinned out so that they will stand six or eight inches from each other. They must be well cultivated and kept clear of weeds until they reach a certain height, when they will take care of themselves. As a field crop they are troublesome, requiring much labor, yet I venture to say, that what their real value is, is not properly understood. For instance, in the city of Philadelphia, where they command a ready sale and a good price, a more, or perhaps an equally profitable crop cannot be produced on the farm. The variety for culinary purposes, is known as the Horn carrot, those for field culture as the Orange Carrot.

OKRA or GUMBO, is cultivated in the same way as corn, when the grains are dropped a foot apart, instead of in hills. This Okra is, however, sometimes difficult to vegetate, especially when the seed is purchased, and it is not known how old it is. I have always been successful when I planted seed of my own raising.

EGG PLANTS should not be set out before the first of June, and the ground should be made as rich as the best barn-yard manure can make it. This plant having short roots and producing large fruit, requires strong soil. The best plants should be set out, and they should be protected from the sun during the heat of the day by conical shaped boxes 12 or 14 inches high, made of rough boards, and open at the top, these boxes can also be used as a protection at night in the event of cold weather. This is one of the most delicate of plants, and if it should be overtaken by a couple of cold nights, it

will be put back for at least two weeks. Properly cultivated it produces, abundantly, one of the very best vegetables to be found in the garden, and with which none of the many substitutes, such as the vegetable squash, and others, are at all to be compared.

THE FRIGOLE or BLACK MEXICAN BEAN, I have raised for a number of years. I regard it the best of all beans for winter. It is a universal dish in Mexico, and is also largely cultivated in Texas. It is a small black bunch bean, likes a light soil, if a little sandy the better; a southern hill side would perhaps suit it well. It is planted in rows and two hoeings at most is all that is required. It is sometimes called the Turtle Soup Bean, from the richness of the soup made from it. When first introduced into this country, it sold at a dollar a pint. I would readily pay that for the seed rather do without it for a single year. There is a single objection to this bean on the part of the house-keeper, which is, that it makes the soup as black as ink, as well as any thing boiled with it; but this only affects appearances, and has nothing to do with the intrinsic value of the bean; we must therefore regard it, as I hope we all would an individual—not according to his external appearance, but his merit.

CANTELOPES.—I presume that most of you raise your own Cantelopes. If any of you should not, I hope you will commence the next season. They are grown with as much certainty as the cucumber, and without any more trouble. The character of the soil has little to do with it, provided the hills are prepared properly. My garden lies low and is but poorly adapted to the cantelope. I overcome this by hauling a few wheelbarrow loads of turnpike dirt from the gutters, but pure sand would be preferable. The hills are made about eight feet apart, the ground is dug out about 8 or 10 inches deep, 2 feet in diameter; when the hole is half filled with this dirt and the other half filled with fine manure and soil, all well mixed together; but the hill is made no higher than the surrounding soil, as it retains the moisture much longer on a level surface, six or eight seeds are put at equal distances in each hill, reduced to three or four when the plants are two or three inches high when I add to the hill a top dressing of turnpike dirt or sand to the depth of an inch, removing the weeds once or twice, and until the vines extend 2 or 3 feet from the hill. After that there will be no injury from weeds and the work is done. As fine, richly flavored melons as can be raised in the sands of Jersey, are by this method produced in my garden every year. I obtained the past season, at least 75 cantelopes, from a bed about 30 by 16 feet. It is advisable to change the seed about every other year. Where you have a light soil on a hill side, with a Southern exposure you may raise them in perfection, with no more labor or expense than a crop of pumpkins.

WATERMELONS also, upon such soil, equal to the best in the Philadelphia market, can be produced in any quantities. For two years I had superior Watermelons, but owing to the increase of shade and want of room I reluctantly abandoned their cultivation. The first year I grew 22 edible melons from three hills, one of them weighing 29 pounds; and there is no reason why our farmers should not supply all their wants in this respect. There is no mystery about it at all, as the farmers in my neighborhood used to suppose until they were convinced to the contrary. The best variety of Cantelope to cultivate is the Citron—of Watermelons, the Mountain Sweets are to be preferred, both from their excellent quality and productiveness.

Mr. Freas then spoke respecting Currants, Raspberries, Gooseberries, Cherries, Pears; spoke very highly of the dwarf pears; thinks them much the most profitable kind, &c.; spoke of hot-beds, and the necessity of each farmer having them; gave considerable valuable instruction respecting them. He then proceeded to speak of flower pits. "It may," said he, "perhaps be new to some of you, that the most delicate flowers and shrubs can be preserved through the winter in a growing, healthy condition if placed in a

small excavated pit, covered with sash. My trial of them has been completely successful. I keep in my pit, through the coldest weather, (for instance, the very cold winter of 1851-52,) the tenderest plants, *without artificial heat*, and I am free to say that I never saw more luxuriant, thriving plants, some of which are in bloom in mid-winter; and I have never lost but a single one, which was touched by the frost from pressing against the glass. Through the night the sash is covered with a mat made from rye straw, which is removed in the morning after the rays of the sun fall upon the glass. It is necessary every clear day, without reference to the severity of the weather, to raise the sash for an hour or two at mid-day to admit fresh air, otherwise the power of the sun will wilt and destroy the plants. Roses, particularly, do better where there is no fire, and I find that our horticulturists or nurserymen are beginning to discover this fact, and save the expense of furnaces and fuel.

"My pit is about 12 feet long by 6 wide, and is excavated 3 feet below the surface. The sides are lined with 2½ inch plank, which, at the lower side, is elevated about 15 inches above the ground, and at the upper side 30 inches. The pitch of the sash should be pretty sharp, as it increases the temperature of the pit, and prevents the glass from being broken by the water pressing between them where they lap. Shelves are placed in the pit, the same as in a green house, for the reception of the pots. The flowers in the pit will require watering only once or twice a week. The dirt in the pots should be stirred frequently, and never be allowed to become hard and crusted.

After noticing some other matters interesting to the horticulturist, &c., &c., Mr. Freas concluded by saying that "he regards the pursuit of agriculture as the noblest calling that engages human effort. It is," said he, "the offspring of the Almighty. It was the first pursuit of man, and it will continue until time shall be no more to be his principal pursuit, and upon which all others must depend. All its ramifications exercise an ennobling and edifying influence, which may be termed the religion of nature, sanctified by the divine approbation.

"Agriculture is a peaceful occupation. Its very instincts lead to a life of quiet retirement and good neighborhood. It is domestic—it is patriarchal—and more fully develops the love of home, and family, and friends, as well as an attachment to the institutions of the country, than any other. The farmer is not the advocate of war—he is not the *filibuster* in the territory of a friendly nation—he is not the disturber of the public peace—he is not the turbulent politician—he is not the wild speculator in stocks, who makes a fortune in one hour and loses two in another—he does not scramble with his neighbor in the same business for a customer for his goods by underbidding and false representations. He is guilty of none of these, but he follows the noiseless tenor of his way, happy in his position, free as the air he breathes, and independent as it is possible for a private man to be. It is such as he, that I look upon as the pillars of our great national fabric, for without whom it would speedily crumble into ruins. I believe what I say.

"In conclusion, my friends, I will repeat with a devoted friend of the cause, that the instinct of agriculture is for peace—for the empire of reason, not of violence—of votes, not of bayonets. Nor shall we as freemen and members of a domestic fireside profession, hesitate in our choice of the three great master influences which now rule the world—*force, opinion and affection*—the *cartridge-box, the ballot-box and the band-box*."

Fruits—Thoughts on the Duration of Varieties.

Do varieties of fruit wear out? The affirmative side of this question was maintained with singular zeal and ability, by the late Thomas Andrew Knight, President of the London Horticultural Society. And in our country his views have found an able advocate in Mr. Townley, of Wisconsin,

whose papers contained in the sixth volume of the Horticulturist, are masterly productions, and should be read by all who feel an interest in this subject. Professor Lindley, Editor of (London) Gardner's Chronicle, the lamented Downing, and most of the American Pomologists, have taken the opposite side of the question, and ably contend for the unlimited duration of varieties.

The importance of arriving at a correct solution of the question cannot be too highly estimated, especially if it be true that varieties do wear out. For, in this event, those cultivators who plant extensive orchards of kinds which have passed their acme, must necessarily experience great disappointment, and incur a heavy pecuniary loss.

For wise purposes, all terrestrial objects appear to be so constructed as to be constitutionally liable to the destructive effects of time. This is equally true of animate and inanimate bodies. Impressed with this belief, we cannot regard varieties of fruit as an exception to this universal law of nature.

Before proceeding further, however with our remarks, we will endeavor to avoid being misapprehended, by defining the expression *wearing out* as applied to varieties of fruit. By *wearing out*, we understand that epoch, in the existence of every variety, when, from a constitutional cause, the fruit begins to deteriorate, or the plant perishes. This epoch, we hold, varies in different varieties. In one it will commence soon after puberty, or even long before it; in another it may be delayed for centuries; but in all, it will arrive sooner or later.

That certain varieties do become deteriorated, all pomologists admit. Various causes however are assigned for this deterioration. Mr. Downing, who is high authority on matters pertaining to horticultural, says: "While we admit that, in the common mode of propagation, varieties are constantly liable to decay or become comparatively worthless, we believe that this is owing not to natural limits set upon the duration of a variety; that it does not depend on the longevity of the parent tree; but upon the care with which the sort is propagated and the nature of the climate or soil where the tree is grown." Now it is said to be presumed that the White Doyenne, or the Brown Beurre, or the Chaumontelle, or Old Colmar have been propagated with less care than the Autumn Bergamot which, it is alleged, bears as fine fruit now as it did nearly two thousand years ago. And where is the evidence that the climate, in the vicinity of Philadelphia or Boston, has become so altered within a few years;—or that the soil has been so exhausted of essential inorganic elements,—as to prevent the White Doyenne from bearing the same fine fruits it did, formerly, in these localities. Had there been a deficiency in the soil, of any of these requisite elements, surely it should have been demonstrated by analysis. What the supposed absent elements are, Mr. Downing informs us in the following sentence: "All along the sea-coast where the soil is light, and has been exhausted, by long cultivation, of lime, potash and phosphates, the inorganic elements absolutely necessary to the production of fine pears, many varieties that once flourished well, are now feeble, and the fruit is often blighted." That the blighting of the fruit is attributable to the cause here assigned is clearly established by the fact that, in this very same soil, other pear trees, and various crops do well, that require just as much of these essential inorganic elements, as do those varieties which it is conceded no longer flourish there.

In regard to the Autumn Bergamot, even admitting that it has been in existence nearly two thousand years, and that it bears as abundant crops of as fair fruit as it ever did, can we legitimately draw the inference that this variety will never wear out? As well might we contend that a man, who has arrived at the age of three score and ten, will live forever, because he did not perish in infancy or in the prime of life, like the rest of the offspring of the same parents, whose constitutions were intrinsically more feeble and consequently, less able to resist destructive influences.

Again, it has been argued that the Brown Beurre and White Doyenne cannot be worn out varieties, since they comprise nearly half the pear trees annually introduced from France into this country. This is owing either to the fruit of these kinds being held in high estimation in France at this time, or to their commanding a ready sale here. If the former, the market of Paris must still be abundantly supplied with them, as in former days, which is not the case. Then they are only sent here because they are saleable. And the demand for them in this country continues for three reasons:—1st, they have always enjoyed a high reputation

for excellence—2d, they still flourish in our cities—3d, the authority of our most distinguished pomologists has been adverse to the doctrine of the wearing out of varieties.

Some of the opponents of Knight's theory point to many of the new pears, as already exhibiting symptoms of decay or bad health, in localities where the reputed worn out kinds have ceased to flourish. This, we contend, is only an evidence of the limited durations of these particular kinds. For all will acknowledge that many others of the new varieties have not yet exhibited the slightest symptoms of decay or bad health in the infected districts, which they should do, if the cause of the decay or bad health were extraneous, instead of being constitutional. Let any one plant a number of seed of pears, apples, or other fruit; and expose the plant thus produced, as we have repeatedly done, to the scorching summer's sun, the extreme cold of winter, and to all the inclemencies and vicissitudes of our climate. The inevitable result will be, that many of them will perish; some in a week, some in a month, and others at different periods of time; the duration of the existence of each being limited, *ceteris paribus*, by its natural constitutional feebleness. A similar diversity in the limited duration of the life of children is seen by us daily; one will effectually resist the same influences that will prove fatal to another; and this resisting power is not always dependent on external developments, but on an intrinsic constitutional vigor.

In the article on the duration of varieties, in the Fruit and Fruit Trees of America, Mr. Downing makes the following remarks: "We consider the Belgian mode of producing new varieties greatly inferior to the English one—since it gives us varieties often impaired in health in their very origin. If any further proof of this is desired, we think it is easily found by comparing the robust vigor and longevity of many native pear trees to be found in the United States—some of them 80 or 100 years old, and still producing large crops of fruit—with the delicate trees of several new varieties, now in our gardens, from Europe. These varieties are delicate not only with respect to their constitutional vigor, but they are also more susceptible to injury from the severity of our winter's cold and summer's sun."

After such an admission from one who advocated the unlimited duration of varieties, we are not surprised that even Mr. Downing, towards the close of his brilliant career, should begin to question the correctness of the opinions he had formerly entertained on this subject. In the 6th volume of the Horticulturist, page 371, after giving the views of De Candolle in favor of the permanency of varieties, Mr. Downing adds: "We are not sure that De Candolle's theory will hold good with the finest fruits and florist's flowers. The species might be recovered, but we question whether in many instances that will be the case with the variety."

"With regard to improved varieties, as they are understood in a horticultural point of view, they are doubtless prone to decay, in proportion to their degree of departure from the physiological perfection, which enables the wild variety to maintain itself continually on the surface of the globe, independent of the care of man. A wild variety will produce seed under favorable circumstances, but many highly improved varieties, in a horticultural sense, do not perfectly mature their seeds under any circumstances whatever; and, therefore, must be physiologically imperfect, and being so, a priori, if it be admitted that imperfection is a principle of decay, it will not be denied, that no plant imperfectly constituted can carry on its functions but for a more or less limited time, even under the most favorable circumstances."

This direct and unequivocal admission, by Mr. Downing, that some varieties have a more or less limited duration, clearly indicated that an important change had taken place in his views respecting the wearing out of varieties;—a change which, we are inclined to believe, would have been more thorough and complete had his life been prolonged.

A few of the advocates of the unlimited duration of varieties attribute the cracking of the fruit of the White Doyenne and of other deteriorated kinds to the depredations of insects or parasitic fungi. It is a well established fact that insects and vegetable parasites are prone to attack enfeebled or diseased plants in preference to others; and that they rarely do material injury to those in which the vital force maintains its original vigor. A suitable nidus for the development of the germs of the Cryptogami is not presented by healthy vegetable productions. The commencement of decay in a tree, or a decline in its constitutional vigor, from some cause or other, are essential requirements to the growth

of parasitic fungus sporules. Moreover, if the cracking of the fruit were owing to the ravages of insects or cryptogamic parasites, independently of any enfeebled condition of the variety, then all other varieties grown under the same circumstances shall also suffer in a similar way from the same causes; but they do not.

We have already incidentally remarked, that the White Doyenne still flourishes in our cities. Similar success attends the inter-natal cultivation of most of the reputed worn out kinds. Since this is the case, it is triumphantly asked—how can they be considered worn out? The same inquiry could have been just as appropriately and exultingly made a few years ago, respecting these same varieties, which then bore fine and fair fruit in various other localities in which they are now utterly worthless.

The truth is, these varieties receive a degree and kind of protection in our cities which will enable them to resist and counteract for a time, and it may be for a long time, the pernicious influences that tend to impair their constitutional vigor. Medical men well understand the vast importance of appropriate hygienic measures in cases of impaired health. By judicious management, an improvement will generally take place in all the functions of the body, and life may be prolonged for years. But eventually a period will arrive, when all human agencies will cease to be beneficial. By well directed treatment, deteriorated varieties of fruit may also be partially renovated. And, in some instances, the return will more than compensate for the outlay. But more frequently the trouble and expense of the extra management will be ruinous to those who engage in fruit culture for profit.

W. D. BRINCKLE, M. D.

Corn Harvesters.

Gardner A. Bruce, of Mechanicsburg, Ill., has invented an improvement in machines for harvesting corn stalks, on which he has applied for a patent. The nature of the invention consists in so arranging the cutters that they will be caused to revolve and cut in an upward direction and after cutting the stalks will give them a direction toward the center of the machine. Inclined revolving shafts are also employed with arms for bending and holding the stalks while being cut, and afterward throwing them into the receiver at the centre of the machine. The propelling wheels are each provided with a separate axle, so that an open space is thus left at the center, and two revolving shafts with radial arms, in combination with a spring catch are employed for holding the stalks until a bundle is collected.—Sci. Am.

Officers of the Perry County Agricultural Society.

The annual meeting for the election of the officers for Perry Co., Agricultural Society, was held in the Court House, in Bloomfield, on Monday evening, the 2d inst. The meeting was organized, Judge Beaver in the chair, Irvin J. Crane, Secretary.

The following officers were elected for the ensuing year:
PRESIDENT:—George Blattenberger, Buffalo township.

VICE PRESIDENTS:—R. S. King, Penn township, Isaac Kinter, Greenwood, Jesse Beaver, Millerstown, John Junkin, Spring, George S. Barrett, Bloomfield, Curtis Showalter, Ryo, Nicholas Honeh, Saville, Joseph McClure, Tyrone, George Swartz, Watts, Jas. Everhart, Centre, Wm. Basserman, Juniata, Frederick Stail, Liverpool B., Geo. Johnstone, Toboyne, Geo. Stroup, Jackson, Wm. B. Anderson, Madison, A. C. Clemson, Oliver, A. J. Bosserman, Newport, John Toland, Miller, Jacob Billow, Carroll, A. J. Jones, Wheatfield, Saml. McKenzie, Petersburg, Henry Fetter, Landisburg.

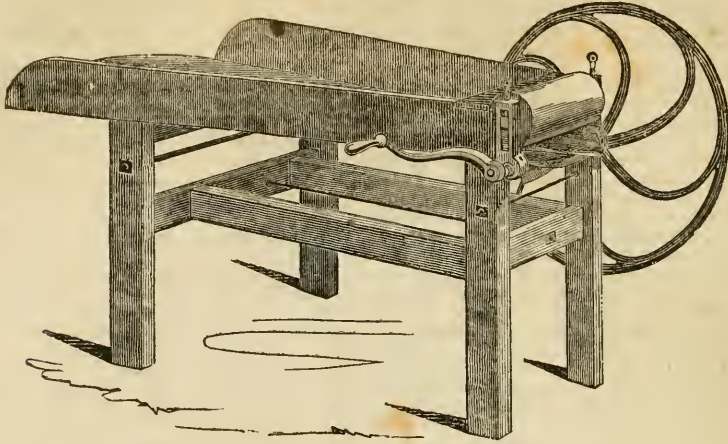
MANAGERS:—John McKeenan, A. C. Klink, B. F. Junkin, M. R. Clouser, John A. Baker, Hugh Campbell, Wm. A. Sponsler.

SECRETARIES:—Daniel Gantt, Jas. L. Diven.

TREASURER:—Wm. Peal.

The Society is in a very flourishing condition, and has had two very creditable fairs. It is an excellent way to gather the men of a County, into one fraternal meeting each year. It far surpasses militia trainings in the instruction gained and the order that prevails.

A. B. A.



HOVEY'S PATENT HAY AND STRAW CUTTER.

The above cut is a representation of William Hovey's Improved Patent Hay, Straw and Corn Stalk Cutter, the only cylinder cutter, with knives adjustable on the cylinder, that cuts on a hide roller. The patent was granted to William Hovey, February 12th, 1844, was strongly contested in the United States Court at Boston, and fully established in 1845. Several imitations of this machine have been made with the view of evading the patent, but the patentee informs us that not a single machine, made by him or under his direction, till within a few months past, has been sold in Philadelphia. Machines somewhat similar, as well as the new cutters, being constantly introduced, have to some extent superseded these old favorites. Although these new patents have generally originated in the New England States, they have mostly run their course, and, at the present time, but few of them are to be found in that section of the Union, the cylinder cutters, cutting on a hide roller, being found more durable and less liable to get out of order. In the multitude of patent straw cutters, which are only exceeded in number by patent cooking stoves and beehives, we have often felt at a loss when called for an opinion which to recommend to the farmer. We wish to introduce all, that have really merit, to the readers of our Journal, so that farmers can judge for themselves from the illustration and description. With this view we have asked of patentees the use of their cuts, and also give them space for a full description. Each machine thus stands on its own merits, our object is attained in introducing to our readers new and improved machines, and the farmer is the judge for himself. We may remark that most straw cutters, which cut on a hide roller, are constructed to make a *longer* cut of hay or straw than many others. The theory of cut feed being, not only to avoid waste, but also to induce a full mastication before passing into the stomach. If cut only about half an inch, it will be often swallowed, like whole grain without the grinding and bruising process in the mouth, which is considered important to thorough digestion. One inch to an inch and a quarter is considered by many to be the proper length, to produce the full ad-

vantages of cut feed. Paschall Morris & Co., northeast corner of Seventh and Market streets, Philadelphia, have been appointed agents for the above machine.

In reference to them, William Hovey, the patentee, writes us as follows, and we offer the same opportunity of description to patentees of other machines, so as to bring them before the public:—

"My machine will be warranted to cut faster and with much less power applied to operate them than any other straw cutter in the market. They are not like several other kinds of cylinder shear cutters *misnamed self sharpeners*, but they profess merits of vastly more importance to the user, viz: they are not *self dullers*, and not like cylinder shears that come in hard contact with the bed shear before a cut can be made. These have a natural tendency to cut themselves up, which they never fail to accomplish if kept in operation. All shears may with equal propriety be styled self sharpeners as those applied to straw cutters, and consequently are all self dullers; but the cylinder cutters that cut on a roller have nothing to dull them but the substance they sever, and will last with careful usage a year without grinding, and when grinding becomes necessary, on Wm. Hovey's Patent Cylinder, each knife can be taken off separately, ground on a common grindstone, and replaced, and in case one knife should be more narrow than the others it can be adjusted, or set out to accommodate the others with great facility and perfection. This principle of adjusting the knives on the cylinder is the leading claim in the patent, and cannot be used by others without an infringement. Great improvements have been made on these cutters since they were patented. Some have been made under a license with the name of Wm. Hovey's patent marked on them, and large numbers have been sold in Philadelphia, marked C. Hovey & Co., but like all the rest they had nothing to do with Wm. Hovey's patent, nor his improvements. Power machines will be furnished to order, capable of cutting from one to two tons of hay, straw or cornstalks in one hour. Samples of these power cutters will soon be forwarded to Philadelphia."

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Prize Essay on the Hereditary Diseases of Horses.

By FINLAY DUN, JUN., V. S., Lecturer on Materia Medica, &c., at the Edinburgh Veterinary College.

[Continued from page 75.]

In regard to the hereditary diseases of horses we shall consider, first, those of a local nature, afterwards proceeding to those which are more general in their character, and which affect the system as a whole.

Local hereditary diseases are usually simple in their nature, and consequently their predisposing causes are easily traced, and usually consist in some peculiarity of external form more or less obvious. This observation chiefly applies to several sorts of lameness, which we shall now notice.

Bone Spavin consists in inflammation of the ligamentous and synovial connections of the bones of the hock, and usually of those between the cuneiform medium and metatarsal bone. Effusion occurs, forming an exostosis or bony tumour on the antero-internal part of the hock, attended during its formation with great pain and consequent lameness. Violent and continued exertion, especially when the animal is growing, is the usual immediate cause of this disease. The amount of strain of the parts affected, and the consequent liability to the disease, are always greatest where the width and strength of the limb below the hock are disproportioned to its width and strength above the hock. Horses of such conformation are unusually predisposed to the most troublesome and serious cases of spavin, and hand down to their progeny a similar conformation and predisposition. Other bony deposits besides spavins are also more apt to affect some families than others. This tendency may depend on an endeavor on the part of nature to strengthen a local weakness, as well as on a general disposition to the formation of exostosis—a disposition always more frequent and stronger in the horse than in most other animals.

Curb is a strain of the calcaneo-cuboid, or posterior straight ligament of the hock, causing pain and swelling on the postero-internal part of the joint. Horses most subject to it are those in which the hock is straight and the os calcis short and inclining forwards.

Of all the complaints to which horses are liable there is none more frequent, more troublesome, or more tedious than *strain of the back tendons*. It usually consists in rupture of the minute fibres of the tendo perforans, or of the strong *check* ligament attached to it. To repair this injury inflammation is established; effusion soon follows, and occasionally thickening and shortening of the limb. The frequency and severity of this accident might be greatly diminished by breeding only from animals with sound well formed limbs. The chances of its occurrence are least in horses having well shaped knees, sufficiently large both in their anterior and lateral aspects, with the tendons prominent from the fetlock upwards—a formation which gives a flat appearance to the limb when viewed from the side. Horses, on the other hand, with round legs and small knees, to which the tendons are tightly bound down, are especially subject to strains, on account of the want of that full prominence of the posterior part of the knee which is found in limbs of a more perfect conformation, and which gives a mechanical advantage to the tendons passing over it. With the aid of this lever the tendons perform the work required of them with ease and safety: without it, they are apt to suffer from the sudden and violent shocks to which they are subjected, especially when the horse is put to fast work.

Navicular Disease depends upon strain or laceration of

the tendo perforans just where it passes over the navicular bone. It causes pain and tenderness of the parts affected, a short, tripping, but cautious gait, a *wiring in* of the heels, and a wasting of the muscles of the shoulder, with all the other well known symptoms of grogginess. The predisposition to this disease is especially great in horses with narrow chests, upright pasterns, and out-turned toes. Even with average work, horses in which this conformation is decided can scarcely fail to become groggy, for the distance between the point at which the tendo perforans is inserted into the os pedis and that at which it passes over the navicular bone is so short, and the angle it makes so acute, that the tendon acts at a mechanical disadvantage, and is constantly liable to strain. But defects like these rarely occur singly, there usually existing in addition a want of mutual adjustment between other parts of the limb. Navicular disease is, therefore, to a certain extent hereditary, in so far as there are certain forms of limb especially subject to it. A tendency to it exists in several stocks that have come under my own observation; and I am informed by a veterinary friend, Mr. Tutbill, long resident in Ireland, that he knows of the progeny of several Irish horses, in which navicular disease is so common, that they are always looked upon with suspicion, and bring in consequence lower prices than their general appearance would otherwise warrant. The progeny of "Young Musician," for example, a thorough-bred horse, well known in Ireland, and especially in the western counties, all show a great tendency to this disease.

Acute diseases are usually referable to some cause or causes which are often violent in their nature, but operate for a comparatively short time; their special locality may be determined, or their type or intensity modified, by the particular constitution of different animals; they seldom, however, owe their existence to inherent hereditary causes. Chronic diseases, on the other hand, usually result from the continued operation of causes inadequate to induce acute maladies; they often occur as consequences of badly treated or acute attacks, their development is greatly dependent upon the special constitution of the individual, and many of them are more or less hereditary. No diseases better illustrate this than those affecting the respiratory organs, such as chronic cough, thick-wind, and roaring, all of which are usually hereditary.

Chronic Cough depends on excessive irritability of the mucous membrane of the trachea or bronchii, and often occurs as a consequence of bronchitis. In unfavorable states of the atmosphere it is greatly aggravated, and in all such cases the slightest over-exertion is sufficient to cause a painful, harassing cough. This irritable condition is very apt to be hereditary. A thickened state of the same mucous membrane, inducing thick wind, grunting, and some of the cases considered as broken wind, is also hereditary; and the same obtains with *roaring*, especially that form of it which alone, in strict propriety, is entitled to the name, and which consists in atrophy, or wasting of some of the muscles of the larynx, especially the crico-arytenoideus posticus. In consequence of this wasting, the cartilages of the larynx fall inwards at every inspiration, and the consequent diminution of the passage through which the air passes causes in respiration a peculiar roaring, grating sound. If the ear be applied to the throat of a roarer, there may usually be heard at each inspiration a grating flap, caused by the cartilage falling inwards. It is important to observe that this sound, as also the roaring noise accompanying it, occurs during inspiration: for when such a sound occurs during expiration,

it indicates a morbid condition of the lower part of the bronchial tubes. In roaring, the particular *timbre* or quality of the sound varies considerably, according to the amount of the obstruction. Where this is very great, and the diameter of the tube much reduced, a sharp whistling noise is produced; while, if there be less diminution in the calibre of the tube, a deep roaring or grunting noise is observed. Hence whistling is not in all cases, as is generally believed, a less serious, but, on the contrary, is frequently a much more serious, affection than roaring, resulting, as it often does, from an aggravated state of the same morbid condition on which roaring depends. Roaring may be readily detected, even when not very bad, by giving the animal a gallop, which renders the defect apparent by increasing the rapidity and depth of the respirations, or by suddenly threatening to strike the animal, or giving him a smart blow on the ribs, which causes a sigh or deep-drawn inspiration, and thus gives rise to the sound characteristic of the disease. Pressure on the larynx also induces loud and repeated coughing, and in such cases it is observable that each particular cough has a different sound.

Many cases, illustrating the hereditary nature of roaring, might here be cited. The celebrated horse "Outery" was well known to be a roarer; many of his stock, out of perfectly sound dams, have turned out roarers; and I am informed, on competent authority, that the defect of the sire has, in several instances, been very evident in the third generation. Some time ago, a friend of my own got from Northumberland two young horses of considerable value. Though perfectly sound at the time of purchase, both soon after became roarers: they had been bought from different breeders, but, on inquiry, it was found that both were got by the same sire, and that many more of his progeny had also become affected by the same disease.

But roaring may occur independently of hereditary causes. It is occasionally produced by the presence of tumours in the larynx or trachea; more often by constrained positions of the head and tight reining, and hence frequently occurs in old carriage horses. It is sometimes met with in crib-biters, from their being made to wear straps buckled too tightly round the throat. It supervenes from bad attacks of bronchitis, especially when of frequent occurrence, and also from phlebitis, being caused in the latter instance by defective nutrition of the muscles of the larynx. But even in cases where roaring is not congenital, but is produced during the lifetime of the animal, and by accidental causes, it may manifest a hereditary tendency. There is, indeed, no accidental defect more commonly transmitted from parent to offspring than that on which roaring depends.

Considerable caution is requisite in judging as to the existence of roaring in stallions of the heavier breeds, for three-fourths of these, when briskly exercised, produce a loud roaring noise, which often occurs without any disease of the larynx, trachea, or any part of the respiratory apparatus. It results from the high spirit and condition in which entire horses are usually kept, from the acute angle at which they generally carry the head, the abundant deposition of cellular tissue and fat about the throat, the comparatively small width between the sides of the lower jaw, the great development of the muscles of the neck, and the thickness of the mucous membrane lining the larynx and contiguous parts. But the noise so produced is somewhat different from that depending upon morbid peculiarities. It is observed during expiration as well as inspiration, and usually disappears when the nose is elevated so as to be placed as much as possible in a line with the neck. When the sound has these distinguishing characters, and occurs in animals of the heavier breeds with well formed necks and chests, it is not likely to be productive of any bad effects, or to be hereditary. All such sounds occurring in the lighter breeds of horses must, however, be regarded with great suspicion.

There are few diseases in which hereditary tendencies are so manifest as in that variety of deep-seated *ophthalmia*, or inflammation of the eye, recognised by veterinarians under the various titles of periodic, specific, or constitutional *ophthalmia* and moon-blindness. In this disease the inflammation involves, to a greater or less degree, all the internal parts of the eye, exhibits a great tendency to effusion of lymph, often attacks only one eye at a time, but, on subsiding in the one first attacked, is very apt to appear in the other; always leaves the eye affected dim, weak, and susceptible to a future attack, and is seldom entirely got rid of until blindness of at least one eye has been induced. The

symptoms of this disease are usually tolerably well marked. The mucous membrane and its various appendages are inflamed; there is copious secretion of tears, great pain and tenderness, and marked intolerance of light. The cornea becomes opaque and for some time intercepts the view of the parts within. The eye-lids are nearly closed, and the eye-ball within when visible through the cornea soon loses its clear transparency, in consequence of the humours becoming of a muddy yellowish-brown color from effusion of lymph. Febrile symptoms are present, and are greatly more intense than might be anticipated from the comparatively small size of the part affected. After two or three days there is often a remission in the intensity of the disease, the external parts being less inflamed and the dull muddiness of the cornea and interior gradually diminishing. A recurrence of the acute inflammation, or its transference to the previously sound eye, is always, however, much to be dreaded. Sometimes the eye apparently recovers, and the superficial observer might consider it perfectly healthy, but the more experienced will find, on careful inspection, sufficient evidence that the organ has been the seat of disease, and that there still remains a change of structure which predisposes to subsequent attacks. The eye seems smaller than its fellow, and still remains intolerant of light; the cornea is often dull, the margins of the pupil frequently uneven and ragged, and the movements of the iris impeded by adhesions; the more deep-seated parts have a peculiar leaden appearance, and shreds of lymph may sometimes be observed floating in the aqueous humor, or embedded in the crystalline lens or its capsule: the last condition constituting what is technically called a *cataract*. This may vary much in size, being sometimes a speck scarcely perceptible, and interfering slightly with vision; at other times large, with white lines passing outwards in every direction, and causing nearly total blindness. Eyes having any of these appearances must be regarded as unsound, and specially susceptible of inflammation, which is apt to be excited in them by such causes, as exposure to cold, high feeding, over work, or debility, and is liable to return again and again, until the animal is totally blind. But before the occurrence of an acute attack it is scarcely possible, without an examination of its progenitors, to determine positively whether an animal is predisposed to periodic *ophthalmia*. Horses with small dark eyes, large, coarse heads, and of dull and phlegmatic disposition, are, however, generally considered to be specially subject to the disease. There is seldom any very apparent defect of the eyes, either in structure or function; still it cannot be doubted that there exists in them some peculiarity of conformation or of minute texture differing from health, and which, although generally unobservable, is yet capable, under favoring circumstances, of fostering serious and irremediable disease.

Ample evidence can be adduced in support of the hereditary nature of *ophthalmia*. Cases of congenital blindness in stock subject to it are recorded. These, however, are rare; but opacities of the cornea and cataracts are not uncommon. The tendency to the disease frequently shows itself before the animal has been stabled or worked; but more commonly, such changes in the mode of life appear to be the immediate cause of the attack. A very large number of the stock of the celebrated Irish horse "Cregan" have become affected by *ophthalmia* of the worst kind. I am told by a gentleman well acquainted with this stock that the tendency is still decidedly marked even in the fourth and fifth generations, often appearing, and sometimes speedily causing blindness, very early in life, as at two or three years of age, and even before the animals have been exposed to what are considered the ordinary exciting causes of *ophthalmia*.

Specific *ophthalmia* affords a good illustration of a malady which, although usually hereditary, is occasionally produced by accidental causes, and to all appearance independently of hereditary tendency; and this two-fold mode of production has given rise to much contrariety of opinion concerning the hereditary nature of the complaint. It is sometimes produced even in its worst form by over-work and injudicious feeding, but such accidental cases are seldom hereditary, for, as we have above remarked, acquired peculiarities are less likely to be hereditary than inherent ones. From this it is obvious, that all blind animals are not at once to be condemned as unfit for getting sound and perfect stock. The cause of their blindness must be inquired into; and when it can be shown that they have lost their sight from accidental causes, and that the stock from which they sprang

was free from all diseases of the eyes, they may be safely used for breeding purposes. If, however, on the other hand, the blindness cannot be traced to any adequate extraneous cause, or if the sire or dam, or any other relatives of the animal, be also blind, or affected with cataracts, the animal must be rejected, as likely to produce stock with weak eyes, and susceptible of that very serious disease, periodic ophthalmia.

[Concluded in next number.]

SPECIFIC MANURES.

BY THE LATE A. J. DOWNING.

We think no one at all familiar with Modern Chemistry or Scientific Agriculture can for a moment deny the value of *specific manures*. It is the great platform upon which the scientific culture of the present day stands, and which raises it so high above the old empirical routine of the last century. But in order to be able to make practical application, with any tolerable chance of success, of the doctrine of special manures, we must have before us careful analyses of the composition of the plants we propose to cultivate. Science has proved to us that there are substances which are of universal value as food for plants; but it is now no less certain that, as the composition of different plants, and even different species of plants, differs very widely, so must certain substances essential to the growth of the plant be present in the soil, or that growth is feeble and imperfect.

A little observation will satisfy any careful inquirer, that but little is yet practically known of the proper mode of *manuring orchards*, and rendering them uniformly productive. To say that in almost every neighborhood, orchards will be found which bear large crops of fine fruit, while others, not half a mile off, produce only small crops; that in one part of the country a given kind of fruit is always large and fair, and in another it is always spotted and defective; that barnyard manure seems to produce but little effect in remedying these evils: that orchards often nearly cease bearing while yet the trees are in full maturity, and by no means in a worn-out or dying condition:—to say all this, is only to repeat what every experienced cultivator of orchards is familiar with, but for which few or no practical cultivators have the explanation ready.

We have seen a heavy application of common manure made to apple trees, which were in this inexplicable condition of bearing no sound fruit, without producing any good effects. The trees grew more luxuriantly, but the fruit was still knotty and inferior. In this state of things, the baffled practical man very properly attributes it to some inherent defect in the soil, and looks to the Chemist for aid.

We are glad to be able to say this aid is forthcoming. Many valuable analyses of the *ashes* of trees and plants have been made lately at *Gießen*, and may be found in the appendix to the last edition of *Liebig's Agricultural Chemistry*. And still more recently, Dr. Emmons, of Albany, well known by his labors in the cause of Scientific Agriculture, has devoted considerable time and attention to ascertaining the elements which enter into the composition of the *inorganic parts of trees*.

The result of this investigation we consider of the highest importance to the fruit cultivator and the orchardist. In fact, though still imperfect, it clears up many difficult points, and gives us some basis, for a more philosophical system of manuring orchards than has yet prevailed.

The importance of the gaseous and more soluble manures—ammonia, nitrogen, &c.—to the whole vegetable kingdom, has long been pretty thoroughly appreciated. The old-fashioned, practical man, who stands by his well-rotted barnyard compost, and the new school disciple, who uses guano and liquid manures, are both ready witnesses to prove the universal and vital importance of these animal fertilizers,—manures that accelerate the growth and give volume and bulk to every part of a tree or plant.

But the value and importance of the heavier and more insoluble earthy elements have often been disputed; and, though ably demonstrated of late, they are still comparatively few who understand their application, or who have any clear and definite ideas of their value in the economy of vegetable structure.

To get at the exact quantities of these ingredients, which enter into the composition of plants, it is necessary to analyse their ashes.

It is not our purpose, at the present moment to go beyond the limits of the orchard. We shall therefore confine our-

selves to the most important elements which make up the wood and bark of the apple, the pear, and the grape-vine.

According to Dr. Emmons's analysis, in 100 parts of the ashes of the sap-wood of the apple tree, there are three elements that greatly preponderate: 16 parts potash, 17 parts phosphate of lime, and 18 parts lime. In the bark of this tree there are 4 parts potash, and 51 parts lime.

100 parts of the ashes of the sap-wood of the pear tree, show 23 parts potash, 27 parts phosphate of lime, and 12 parts of lime; the bark giving 6 parts of potash, 6 parts of phosphate, and 30 parts of lime.

The analysis of the common wild grape-vine shows 20 parts of potash, 15 parts phosphate of lime, and 17 parts lime to 100 parts; the bark giving 1 part potash, 5 parts phosphate of lime, and 30 parts of lime.

Now, no intelligent cultivator can examine these results (which we have given thus in the rough to simplify the matter) without being conscious at a glance that this large necessity existing in the fruit trees for potash, phosphate of lime, and lime, is not at all provided for by the common system of manuring orchards. Hence, in certain soils, where a part or all of these elements naturally exist, we see both the finest fruit and extraordinary productiveness in the orchards. In other soils, well suited perhaps for many other crops, orchards languish and are found unprofitable.

More than this, Dr. Emmons has pointed out what is perhaps known to few of our readers, that these inorganic substances form, as it were, the skeleton or bones of all vegetables as they do more tangibly in animals. The bones of animals are lime—in the form of phosphate and carbonate—and the frailer net-work skeleton of trunks, leaves, and fibres in plants, is formed of precisely the same substance. The bark, the veins and nerves of the leaves, the skin of fruit, are all formed upon a frame-work of this organised salt of lime, which, in the growth of the plant is taken up from the soil, and circulates freely in the outer extremities of the tree or plant in all directions.

As these elements, which we have named as forming so large a part of the ashes of plants, are found in animal manures, the latter are quite sufficient in soils where they are not naturally deficient. But, on the other hand, where the soil is wanting in lime, potash, and phosphate of lime, common manures will not and do not answer the purpose. Experience has abundantly proved the latter position; and science has at length pointed out the cause of the failure.

The remedy is simple enough. Lime, potash, and bones (which latter abound in the phosphate) are cheap materials, easily obtained in any part of the country. If they are not at hand, common wood ashes, which contains all of them, is an easy substitute, and one which may be used in much larger quantities than is commonly applied, with the most decided benefit to all fruit trees.

The more scientific cultivator of fruit will not fail, however, to observe that there is a very marked difference in the proportion of these inorganic matters in the ashes of the trees under our notice. Thus, potash and phosphate of lime enter much more largely into the composition of the pear than they do in that of the apple tree; while lime is much more abundant in the apple than in the pear; the ashes of the bark of the apple tree being more than half lime. Potash and lime are also found to be the predominant elements of the inorganic structure of the grape-vine.

Hence potash and bone-dust will be the principal substances to nourish the structure of the pear tree; lime, the principal substance for the apple; and potash for the grape-vine; though each of the others is also highly essential.

Since these salts of lime penetrate to the remotest extremities of the tree; since, indeed, they are the foundation upon which a healthy structure of all the other parts must rest, it appears to us a rational deduction, that upon their presence, in sufficient quantity, must depend largely the general healthy condition of the leaves and fruit. Hence, it is not unlikely that certain diseases of fruit, known as the "bitter rot" in apples, the "mildew" in grapes, and "cracking" in pears, known and confined to certain districts of the country, may arise from a deficiency of these inorganic elements in the soil of those districts (not overlooking sulphate of iron, so marked in its effects on the health of foliage). Careful experiment will determine this; and if such should prove to be the case, one of the greatest obstacles to universal orchard culture will be easily removed.* What we have here endeavored to convey of the importance of certain specific manures for fruit trees, is by no means all theory.

We could already give numerous practical illustrations to fortify it. Two will perhaps suffice for the present.

The greatest orchard in America, undeniably, is that at Pelham farm, on the Hudson. How many barrels of apples are raised there annually, we are not informed. But we do know that the crop numbered several thousand barrels of Newtown pippins, of a size, flavor, and beauty that we never saw surpassed; and second, that the Pelham Newtown pippins are as well known in Covent Garden Market, London, as a Bank of England note, and can as readily be turned into cash, with the highest premium over any other goods and chattels of the like description. Now the great secret of the orchard culture at the Pelham farm, is the abundant use of lime. Not that high culture and plenty of other necessary food are wanting; but that lime is the great basis of large crops, and smooth, high-flavored fruit.

Again, the greatest difficulty in fruit culture in America, is to grow the foreign grape in the open air. It is not heat nor fertility that is wanting, for one section or another of the country can give both these in perfection; but in all sections the fruit mildews, and is, on the whole, worthless. An intelligent cultivator, living in a warm and genial corner of Canada West, (bordering on the west part of Lake Erie,) had been more than usually successful for several seasons in maturing several varieties of grapes in the open air. At length they began to fail—even upon the young vines—and the mildew made its appearance to render nearly the whole crop worthless. Last season, this gentleman, following a hint in this journal, gave one of his grape borders a heavy dressing of wood ashes. These ashes contained, of course, both the potash and the lime, so necessary to the grape. He had the satisfaction of raising, this season, a crop of fair and excellent grapes (of which we had ocular proof) from this border, while the other vines of the same age, (and treated, otherwise, in the same way,) bore only mildewed and worthless fruit. We consider both these instances excellent illustrations of the value of specific manures.

We promise to return to this subject again. In the meantime it may not be useless to caution some of our readers against pursuing the wholesale course with specifics which all the quack doctors are so fond of recommending—i. e. "If a thing is good, you cannot give too much." A tree is not all bones, and therefore something must be considered besides its anatomical structure—important as they may be. The good, old-fashioned, substantial nourishment must not be withheld, and a suitable ration from the compost or manure heap, as usual, will by no means prevent our orchards being benefitted all the more by the substances of which they have especial need, in certain points of their organization.—*Horticulturist*.

* It will be remembered that, in our work on Fruits, we opposed the theory that all the old pears, liable to crack along the seacoast, and in some other sections of the country, were "worn out." We attributed their apparent decline to unfavorable soil, injudicious culture, and ungenial climate. A good deal of observation since these views were published, has convinced us that "cracking in the pear is to be attributed more to an exhaustion, or a want of certain necessary elements in the soil, than to any other cause. Age has little or nothing to do with it, since *Van Mons Leon Le Clerc*, one of the newest and most vigorous of pears, has cracked in some soils for the past two years around Boston, though perfectly fair in other soils there, and in the interior.

The Oyster Crop of Baltimore.

According to "The Baltimore American," the product of the oyster trade of the city is equal to, or greater than the product of all the wheat and corn raised in the State of Maryland. The whole shores of the Chesapeake Bay and its tributaries are adapted to the growth of the oyster, and as but one year is required for their full growth, an immense profit accrues to those engaged in the business—a profit which is estimated at some three hundred to six hundred per cent. There are 250 vessels engaged in the business, which average about 900 bushels to the cargo, and require nine or ten days to the trip. These vessels, making in the aggregate 6,000 trips during the eight months in which they are engaged give a total of 4,800,000 bushels per year sold in the Baltimore market. The oysters bring an average price of 50 cents per bushel, which gives a grand total of \$2,400,000 per year paid for oysters by the dealers in the city. Some of the houses send by the Balti-

more and Ohio and Baltimore and Susquehanna Railroads, to say nothing of the other modes of transportation, from 8 to twelve tons of "canned" oysters per day. The shells are carried for manure, to all parts of Virginia and North Carolina. In the shucking of oysters, the shells will increase about one-fourth, which would give a total of about 6,000,000 bushels of shells, which sell for two cents per bushel, making a return of \$120,000 per year for the shells alone,

Charcoal Dust for Potatoes.

The antiseptic properties of charcoal are well known. Since the prevalence of the potatoe disease, it has frequently been recommended as a preventive of the rot, and many experiments have been recorded, showing a satisfactory result; We have ourselves used the small dust from coal heaps for this purpose, with success. In the "Survey of Essex County," Mr. Whallon gives the following testimony to the value of coal dust. After speaking of its value as a manure for wheat, and particularly for grass, he says:—"I have also used the dust on loamy and intervalle land with the potatoe crop. During the series of years in which the rot almost ruined the potatoe crop, I scarcely lost any potatoes from that cause, and supposed it was owing to the coal dust I used. My manner has been to drop the seed and cover it with a small shovel full of dust, and then cover with earth. Have any of our readers used it, and with what success?—*Rural New-Yorker*.

Cutting and Grinding Corn Stalks.

Wm. G. Huyett, of Williamsburg, Pa., has invented an improvement in machines for the above purpose, on which he has applied for a patent. His invention consists in the employment of a revolving cutting knife in combination with a revolving disc, both secured on the same shaft, and revolving simultaneously. The knife is of such a shape, and is so arranged in relation to the feed hopper and grinding disc, that it serves to cut up the stalks and prepare them and feed them to the grinding disc, which turns in a toothed concave, grinding them as fast as cut. If this machine should work well it will be a very useful invention.—*Sci. Am.*

Nitrate of Soda.

The *American Agriculturist* copies our account of Mr. H. SHUBART's experiments with nitrate of soda and guano on corn, and earnestly appeals to farmers to make accurate experiments with the nitrate, saying that it has a good deal of confidence in the idea that nitrate of Soda will soon be a successful competitor against monopolized guano, we trust the experiment will be made, though we have but faint hope that the idea of the *Agriculturist* will prove correct: The value of the guano consists in containing much ammonia; the value of the nitrate in containing much nitric acid, and it is supposed that the latter will afford nitrogen to plants as well as the former. This may be true. We think however; the chief value of ammonia is not in supplying the plants with nitrogen, but in organizing starch, or in depositing silicic acid on the stalks of corn or wheat, &c. If this view is correct, nitric acid can never take the place of ammonia in the vegetable organism, nor nitrate of soda compete with guano, as a manure for the cereals.—[*Rural New Yorker*.

Profits of a Vine.

A late paper gives a statement of the cost and profits of an Isabella grape vine. The cost is twenty-five cents in labor yearly, in pruning and dressing, and one wheel-barrow load of manure. The profits are five to six bushels of grapes annually, and an ornamental effect in covering an otherwise unsightly out-house.

Fresh Isabella Grapes in January.

We are indebted to Geo. Clapp, Esq., of Auburn, N. Y., for a box of Delicious Isabella grapes, raised from his graperly last season, and preserved in cotton up to this time. The specimens sent us were as fresh and retained their flavor as perfectly as though just plucked from the vine. It may interest some of our readers to know the process by which they were preserved, which was simply by placing the clusters between layers of cotton, in a box, until it was full, and then covering it, to exclude the air much as possible.—*Sci. Am.*

Remarks at the Conversational Meeting of the National Poultry Society at New York, by David Taggart, Esq.

LADIES AND GENTLEMEN:—As this is my "first appearance on any stage," you are expected to make large allowances for the performance.

MR. PRESIDENT:—I fancy I have been requested to open this most extraordinary council, not because of any great fitness I possess, but, because, having been brought up to the law, I am supposed to have more impudence than an honest man. You know, sir, impudence is now-a-days at least three-fourths of an orator's stock in trade. (Mr. Barnum interposing, "I hope you don't mean to be personal.") But seeing a medical lecturer, a clergyman, and two or three editors about, I am inclined to question my title to the post.

As you are aware, sir, I made a chicken speech last week at Albany, long enough to tire you and every one else that heard it. In that I told all I knew. (If I told no more you are probably surprised it was so long.) That speech has been asked for publication, and unwisely given up for that purpose, so that if I attempted to make another I might be caught at the very ungraceful trick of telling an old story. I will, therefore, content myself with the fewest possible words to answer the purpose.

If I were not entirely free from that blessing and cause of humanity, which men call ambition—that Janus-faced passion, which in one age elevates nations to grandeur and glory, in another desolates a world—I should have shunned this and every other similar occasion. For although the subject is highly useful and praiseworthy, it is not one that a man can freight with the best jewels of his mind, and send it forth to win for him a reputation before the world. But, sir, I am not bound to adapt my fancies to the taste of every brainless ass that chooses to bray at me. I intend to talk about chickens whenever it suits me, either in private or public.

It is very common for men who don't know the difference between a turkey and a goose, (it would puzzle some of them mightily to tell the difference between themselves and a goose,) to ridicule us and what they are pleased to term our chicken mania. Why should they?

The man who spends his life in fields, forests, deserts and mountains, searching for and classifying wild birds and beasts, is looked upon with admiration as the friend and the benefactor of humanity. As one who loves nature in all her untold myriads of animated forms, I rejoice that it is so. While birds send up their songs of praise to God for freedom and happiness, for the fullness and beauty of the earth, for the warmth and the light of Heaven, I rejoice that the names of Audubon and Wilson will be unforgotten. They have built themselves monuments as imperishable as man's love of genius, beauty and power. While perfumed and bejeweled fools have sunk into graves that no man knows or cares for, these uncounted searchers after science are passing down the stream of ages to posterity, among "the few immortal names that were not born to die."

The man who searches life-long among shells and plants and flowers is not ridiculed for his pursuit of nature's mysteries. He too is ranked as a benefactor of his race, for he too contributed to the mighty mass of human knowledge. Then why should we be ridiculed? The objects of our inquiry are not only most curious and beautiful, but most useful and indispensable; promotive of man's comfort, wealth and happiness in every age and section of the world. They are not of low degree in the grand scale of creation. In animated nature they belong to the first great division—the same as man himself—and to the second class—the next below man. By their quick generations and prolificness they

enable us to find out more of the wonderful results and secrets of breeding in five years, than can be learned from your Durham cattle and Arabian steeds in twenty.

Mr. President, he who improves the meanest thing on God's earth, expands that instant into a philanthropist, for God's earth is man's home, and he contributes by his improvement to its beauty, plenty or comfort. I care not if he limit his energies to the improvement of *musquitos* (if you like) by breeding them *without bills*, or the rearing of politicians without so much love of country, or the propagation of patriots without their "blood and thunder" eloquence. Still, sir, even for these little things he merits the thanks of the world.

Then why should not we be entitled to some praise, when our object is to improve greater and better things, such as geese, ducks, turkeys and Shanghais? See, sir, what we have done already. Four years ago, a well known and respectable gentleman of this city wrote that it required a good cock of any breed in fine condition to weigh 8 pounds. Now we have in this show stage ten months old that weigh 12 pounds, and quite a number that come pretty near it. If all this has been effected in four years, you shall foretell the final result of this most wonderful progression. Notwithstanding some deplorable luck, I don't intend to give it up until, in the language of our report, Shanghais are sold like bull beef in the market by the quarter, and in roasts, steaks and chops. (It makes the Secretary's "chops" water to talk about it.)

Of course, it would not be proper on this occasion to draw these merely prefatory remarks out into a speech. Instead of doing so I will throw a few shells into the camp, and if they explode so much the better. It will set you talking, and that is the object. Without pledging myself to back them up with assertions or arguments, I will submit the following propositions:—

First, That all the purely bred large Asiatic fowls, known under the various names, buff, red, black, white, grey and spangled Shanghais or Cochin Chinas, Chittagongs and Brahma Pootras, are sufficiently alike to have one common name—color being the only appreciable distinction.

Second, That all full crested or top-knot fowls should be called Polands, and never Hamburgs, because Hamburgs are a distinct and well marked family, already sufficiently numerous.

Third, That no permanent intermediate variety can be established. In spite of all that man may do to the contrary, things will get back to the path in which the great creator started them. He made all the kinds he wanted to people this earth, and he will unmake all others.

Fourth, That, under ordinary existing circumstances, fowls will flourish in an inverse ratio to the numbers kept.

Fifth, That not one pullet in ten of any breed will lay before six months old, and that a large majority of big breeds will not produce eggs before seven or eight months.

Sixth, That no hen, without the aid of a patent nest, will lay more than one egg a day.

Seventh and lastly, That our President, to speak in poultry parlance, is a "good egg," and deserves great credit for his successful efforts in this cause, and further that we ourselves are "some pumpkins;" but for fear the reporters might pervert the expression, and write it that "some of us are pumpkins," I had better withdraw it.

But seriously, sir, this show from beginning to end has been a great and decided triumph, not only in regard to the quantity and surpassing excellence of the specimens, but the loud expressed and universal approbation of the people. Better Black Spanish, Shanghais, or Brahmans, were never seen anywhere, and this is the opinion of every unpreju-

diced gentleman here; and although it is the first chicken show Gotham has ever seen, I sincerely hope it will not be the last, and when the next one happens may we all be here to see.

At Albany I asserted that the love of birds was a tie of brotherhood. In the discussion that is to follow, I hope the sentiment will not be belied. I have an instance in mind that fully illustrates its truth. It relates to my first acquaintance with Dr. James M'Clintock, ex-President of the Pennsylvania Poultry Society. With your permission, sir, I will mention it. One fine morning in June, 1852, I was taking a walk on the shady side of Market street in Philadelphia, as usual looking out for chickens, I came to a well known stand, and there I beheld "a tall, short, slim, thick-set man" with a big head, and a digestive apparatus to match, standing before a coop, examining the contents by the rules and pictures of a book which he held in his hand. Never hesitating a moment to address a poultry fancier, I tapped him gently on the shoulder, and asked him if that was a chicken book. He said it was, and added "who are you?" I told him my name. "By Shanghais and thunder!" he exclaimed, "I thought so." He had read some articles I had written on the subject, and it struck him *they looked like me*. You will have to infer, gentleman, they were pretty *tall* articles. To deter you from reading them I will say they were nearly as long as myself. Says he, "come over and take a drink." "Yes," I told him, "I would not take a drink, but I would go over." I did so, and in less than five minutes we were as thick as flies on a stump-tail horse in the dog days, and have remained so ever since. I trust the same good fellowship may never cease to exist among us all, and when we scatter to our widely separated homes, may we carry with us a friendship for each that will not abate, but grow as strong and endearing as our love for Shanghais!

Guano Deposits on the China Islands.

We cull from the London Chronicle, the following valuable abstract of the official report, made on a careful examination of the actual amount of guano remaining in the China Islands. It has evidently been compiled after a careful scrutiny, and a minimum estimate is the result. It exceeds in reality double the quantity roughly obtained by Admiral Morsby, but is below that of private persons engaged in the trade.

PERUVIAN LEGATION, 4 Albemarle st., }
Piccadilly, February 7, 1854. }

A note has been received at the above Legation, from the Minister of Finance of the Republic, bearing date of the 24th of December, in which the undermentioned is communicated to the Charge d'Affairs:—

The government nominated a deputation, composed of Mr. Charles Faraguet, a French engineer, in the service of Peru, and many other engineers and professors of Chemistry, native as well as foreign, in order that they might undertake the measurement of the guano of the China Islands.

This, therefore, has been effected by men best qualified for the purpose, with as much accuracy as could possibly be obtained, adopting the latest improvements in the scientific proceedings, and the following result has been given in conformity:

	Tons.
That the island situated at the north contains	4,189,477
That the centre island contains,	2,505,948
That the south island contains	5,630,675

Or a total of 12,376,100

The computation is for *tons measurement*, which, when reduced to *tons weight*—the standard used in the sale—will increase the quantity to 16,501,466 *tons weight* of saleable

guano. Besides the China Islands, it is well known that Peru possesses many other guano deposits, containing a very considerable quantity, the measurement of which has also been ordered by the government, and will be published in due course.

It will be seen that the estimate is about double that made by Admiral Moresby, of the British Navy, and heretofore published in the Farm Journal.

HOME PICTURES.

[Selected by Miss Elizabeth C. Morris.]

Ed.—[The following verses, written by Mrs. Francis D. Gage, for the Ohio Cultivator will answer as well in Pennsylvania, as in the Buckeye State:]

Ben Fisher had finished his harvesting,
And he stood by the orchard gate,
One foot on the rail and one on the ground,
As he called to his good wife—Kate.
There were stains of toils on his manly hand,
The dust of the field on his hat,
But a twinkle of pleasure was in his eye
As he looked on his stock so fat.

"Here, give me that baby, dear Kate, you are tired,
I fear you have too much care,
You must rest and pick up a little; I think,
Before we go to the fair.
I'd hate to be taking fat oxen, you know,
Fat Hogs, and fat sheep, and fat cows,
With a wife at my elbows as poor as a crow,
And care wrinkles shading her brow."
"Can't go," did you say? "Can't afford the expense,"
I know, Kate, our crops ain't the best,
But we've labored together to keep things along,
And together we'll now take a rest.
The orchard is bare, but old brindle is prime,
And Lilly and Fan are a show,
Your butter and cheese can't be beat in the State,
So up to the fair we will go."

You've ne'er seen a city, and Cleveland is fine,
Ne'er seen the blue hillyow Lake,
Ne'er rode in a rail car, nor been in a throng,
So Kate, this journey we'll take,
And garner new feelings, new thoughts and new ways,
If we find those that suit as we roam,
And garner up strength with our head, heart and hands,
For the love and duties of home.

"I have sometimes thought, Kate, as I plodded along,
For months, o'er the same weary round,
That a fellow who had such a really hard time,
In Ohio nowhere could be found,
But when I've been called from my home for awhile,
And seen how the rest get along,
I've come back to my toil with a light cheerful heart,
And, "there's no place like home," was my song.

"I wonder that mothers don't wholly despair,
Who ne'er from their cares get away,
But walk the same tread-wheel of duty for years,
Scarcely stopping to rest night or day.
I don't wonder they grow discontented sometimes,
That their feelings grow raspy and cold,
For toil never-ending, and labor uncheered,
Makes women—and men sometimes scold."

Kate looked up with a smile, and said, "Ben, we will go,
There may be better oxen than ours,
Horses swifter on foot and finer by far,
Better butter and cheese, fruit and flowers,
But there's one thing I claim I know can't be beat
In the whole Yankee nation to-day,
I'd not swap him, I know, for a kingdom to boot,
That's my "gude man," and Kate ran away."

Hint to Dairy Maids.

It is said that when a cow refuses to give down her milk, by placing a sack of grain, or other weight on her back, the power to hold up is overcome, and the milk will flow. Will some of our dairymen try this, and inform us of its correctness.

For the Farm Journal.
THE DROP WORM.*

Permit me to call the attention of the readers of the Farm Journal, especially those who cultivate and value good and beautiful shade and fruit trees, to the existence of an insect enemy, whose presence is conspicuously visible at the present time, and the destruction of which is easier effected now than perhaps at any other season of the year. The particular species to which I allude, so far as I can learn, has not been heretofore described, (although analogous species have,) and I therefore propose to call it *Oiketicus Pennsylvanicus*, but it is better known, especially about Philadelphia, by the common names of *drop-worm* and *basket-worm*, and recently in an editorial in the Ledger, it is called the *tree-worm*, a rather vague and indefinite title, as there are so many different kinds of worms that infest and injure trees. The German name of *Sacktrager*, sack bearer, would be much more applicable. No matter, however, about the name just now, it is the animal itself which is of the most importance.

I have had this insect under observation for nearly three years, and have been enabled to see it in all its various states and transformations, and I do not hesitate to say its history presents a phase of insect life that is remarkably interesting. I have also made drawings of it in its different states of progression from the *ova* to the *imago*, and have written a scientific description of it as well as its history, which only needs a single personal observation on the *tree*, and its appearance on immediate exclusion from the egg, to be finished; after which, by your permission, I propose to publish it in your Journal. But as it may then be too late in the season to be "forearmed" through this "forewarning," I have thought it advisable to admonish all concerned of the necessity of lopping off from the trees all those little pendant foli-cles, in which are housed a multitude of eggs, which are sure to bring forth a multitude of destroyers so soon as the foliage is sufficiently advanced to afford them food and shelter. Open and examine them, and you will find no living insect there, but in the sack of the last year's female you will find a number of eggs, varying from six hundred to a thousand, (I counted 904 in one,) nicely packed away, with short flossy silk, in the female pupa case. From this it is apparent that they possess, in an eminent degree, the power to "multiply and replenish," in the approaching season, the evils that were only interrupted by an intervening winter; for they go on multiplying and destroying as long as the foliage remains, or until cool weather sets in. In this locality they seem to be partial to the linden trees, then silver maple and Lombardy poplar; but I have observed them in large numbers, indiscriminately, also upon apricot, quince, apple, plum, pear, &c. The only tree that seems to enjoy an immunity from their depredations is the peach, and also to some extent the cherry.

Many no doubt will be cut off through the pruning operations that usually take place during this month, but to get entirely rid of the evil, all of those little dangling sacks should be carefully removed from the trees and burned. It will not do simply to cut off the branches and have them remain upon them, for the work is only imperfectly done then. This should also be observed by

the whole community, for if one individual removes them from his premises, and others do not, his trees invite the surplus population of his neighbors, or if only a single person in a community neglects it, his premises form a nucleus from which the evil radiates in all directions.

Lancaster, Pa., Feb., 1854.

S. S. R.

*From the circumstance that they sometimes drop from the trees and suspend themselves by a fine silken cord.

For the Farm Journal.
SWEET POTATOES.

MR. J. L. DARLINGTON:—Having seen something in the Farm Journal upon the culture of the Sweet Potato, I am induced to offer the following crude remarks thereon, which may possibly be acceptable to some of your numerous readers.

In the spring, as soon as all danger from frost is past, the hot bed for sprouting the potatoes should be made by boarding off the space intended therefor in a warm situation, and filling it to the height of two or three feet with manure from the horse stable, and upon this a layer of three or four inches of fine chip dirt must be placed, upon which the potatoes may be laid as closely as possible, and covered about two inches in depth with the same material, or with any fine rich earth. If the weather should prove very dry, an occasional watering with tepid water, or warm soapsuds would be beneficial, or if the nights should be cold and frosty the hot bed should be protected by covering it with any material most convenient. When the sprouts are sufficiently large to warrant good roots, they may be pulled from the potatoes and planted in ridges previously prepared.

The ridges are mostly made by throwing two furrows apart with the plow, and applying some well rotted manure, then covering the same by returning the earth, thus forming a ridge of the height of ten or twelve inches, in which sets are to be planted six or eight inches asunder. The best time to plant them is immediately before or after a rain, or during a spell of damp weather, or even in the cool of the evening, if watered occasionally until fairly established.

The ground must then be kept mellow and free from weeds until the vines prevent further culture. When the vines are killed by frost, the potatoes should be taken up, and after remaining in the shade a short time to dry, those not intended for immediate use may be packed away in dry sand or earth in barrels or boxes, by first placing a layer of sand and then one of potatoes, until the vessel is filled. Upon the approach of cold weather they should be placed in a situation secure from frost. In this manner they have frequently been kept till May or June. In packing them away, all potatoes that have been injured in taking up should be laid aside for present use. A soil moderately fertile and somewhat sandy, with a southern aspect, is mostly preferred for the sweet potato.

AL. EF.

Lewisberry, York co., March 1854.

For the Farm Journal.
BLOODY MURRAIN.

MR. EDITOR:—A short time back, one of my bullocks suddenly began to fall away in flesh, and look wild cut of his eyes, and in a few days the dread murrain showed

itself by discharges of blood, both from the kidneys and bowels. We procured two ounces of saltpetre, dissolved it in a quart of warm water, stirred in half pound of ginger, and gave as a drench; and in one hour after we drenched him with a mixture of a quart of thin molasses and finely pulverised charcoal, sufficiently thin to pour. This being done after night, he was left till morning, when he appeared somewhat better, and eat a little corn meal. We next gave him a tea cup full of turpentine, with a like quantity of melted lard. Three or fours after we made a strong tea of cedar branches, (berries on,) and drenched him with it freely.

The discharges of blood by this time were evidently stopped, but the next day it was observed he had no passages, and we gave him a pound of Epsom salts in 3 half pints of warm water, which soon carried off a quantity of clotted blood that had collected; since when there has been no signs of the complaint, and the animal appears to perfectly cured.

I lost a number of cattle by murrain some years ago, and this is the second I have succeeded in curing. The first one was cured by two drenches named above, but as this one seemed a bad case I thought best to make use of the other means. It appears to be important to give the medicine in the early stage of the complaint.

A. H.

For the Farm Journal.

Large vs. Small Trees for Transplanting.

MESSRS. EDITORS:—As the regular season for transplanting trees is at hand, I will, with your compliance, address a few remarks to your readers, which, if they do no good can do no harm. I would say to all who purchase trees to plant, that they need hardly expect to live so long as to see these trees at full growth, so I advise them to purchase the largest trees in the nurseries that they can get. There is as little risk in transplanting large nursery trees as there is with small ones; if large trees cannot be got then plant small ones; do not wait another year for them to be larger, get them at once and have them properly planted, and they will grow as much on your own places as they will do in the nurseries. Some say that small trees, planted at the same time as large ones, will be as large as the large ones in five or six years. Now they do not believe this themselves. Then why deceive the public? The truth is this: A large tree, planted at the same time as a small one, will be as much larger than the small one in five, ten or twenty years as it is now; and I say this from practical experience. Very few have planted as many trees as I have done, and all our Philadelphia nurserymen know that I always select their largest trees. Now for proofs: In the years 1836, '37 and '38, I planted some seven hundred trees of different kinds, the largest that could be got in the nurseries. This was on the banks of the Hudson, and the trees were nearly all got from Mr. Prince, of Flushing, as he had the largest we could get, and on the same place and at the same time, four hundred small trees were planted, and when I saw them last year those which were largest when planted had even gained a great deal on the small ones. When the stock of the "Old Landreth Nurseries" was sold out, I think seven years ago, I purchased over two hundred of the largest trees of different kinds for a gentleman, and took them

out into the country and planted them that spring. Not one failed, and those that were smallest then are smallest yet. When Mr. Buist sold out the stock of his nursery down the "Neck," three years ago, I purchased about two hundred and fifty of the largest trees of different kinds, (and some of them were very large,) for two gentlemen, and had them taken out into the country and planted. Not one of them failed. The largest then are largest now.

After giving these proofs, does any one yet believe that the small trees will match the large ones in size in a few years. It is a delusion. Never mind the cost of a tree; get the largest in the nurseries, and get a proper person to plant them. Do not wait till fall or next year, get them now. Remember that next year your life is a year shorter; so take the pleasure of the world while you are in it. A tree, bush or vine, are things to look at, and are always gaining in size, and if they are fruit bearing then you will taste their products the sooner. So do not "put off till to-morrow what should be done to-day." To-morrow will bring its cares along with it.

Respectfully yours,
WALTER ELDER.

Philadelphia, Feb., 1854.

CHOICE CHERRIES.



FIG. 1.

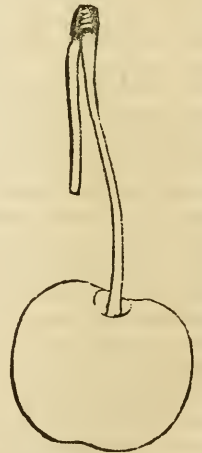


FIG. 2.

NO. 1.—BLACK TARTARIAN.—This superb fruit has already become a general favorite in all our gardens; and in size, flavor, and productiveness, it has no superior among black cherries. It is a Russian and West Asian variety, introduced into England about 1796, and brought thence to this country about twenty years ago. It is remarkable for its rapid, vigorous growth, large leaves, and the erect habit of its head. The fruit ripens about the middle of June, a few days after the May-duke.

Fruit of the largest size, heart-shaped, (sometimes rather obtuse,) irregular and uneven on the surface. Skin glossy, bright purplish black. Flesh purplish, thick, (the stone being quite small,) half-tender, and juicy. Flesh very rich and delicious.

No. 2.—**KNIGHT'S EARLY BLACK.**—A most admirable early cherry, resembling the Black Tartarian, though much more obtuse in form, but ripening nearly a week earlier, or about the tenth of June. It is one of Mr. Knight's seedlings, a cross-breed between the Bigarreau or Graffion and the Mayduke, originated about 1810, and is universally admired.

Fruit large, a little irregular in outline, obtuse heart-shaped. Stalk of moderate length, rather stout, (much more so than in the Black Eagle,) and inserted in a deep open cavity. Skin dark purple, becoming black. Flesh purple, tender, juicy, with a rich and sweet juice of high flavor. Tree spreading.



FIG. 3.



FIG. 4.

No. 3.—**BIGARREAU.**—This noble fruit is the *Bigarreau par excellence*, and is unquestionably one of the largest, most beautiful and delicious of cherries. It was introduced into this country about the year 1800, by the late William Prince, of Flushing, and has been very extensively disseminated under the names of Yellow Spanish, Graffion, and Bigarreau. The tree is short but thrifty in growth, making strong lateral shoots, and forming a large and handsome head with spreading branches—and it commences bearing abundantly and regularly even while young. Its very large size and beautiful appearance, together with the firmness of its flesh, renders it a very valuable variety to cultivate for market.

Fruit very large, and of a beautiful waxen appearance, regularly formed, obtuse heart-shaped, the base a good deal flattened. Stalk stout, nearly two inches long, inserted in a wide hollow. Skin pale whitish yellow on the shaded side, bordered with minute carmine dots and deeping into bright red finely marbled on the sunny side. Flesh pale yellow, quite firm, juicy, with a rich, sweet, and delicious flavor if allowed fully to ripen. In perfection the last of June.

This is often confounded with the following sort, from which it is easily known by its long and broad leaves. It is most commonly known in the middle states as the Yellow Spanish, an incorrect name, which has been ap-

plied to two or three sorts, and the cherry so-called by the older pomologists does not now appear to be known.

No. 4.—**DOWNING'S RED CHEEK.**—A very handsome and excellent seedling cherry, just raised at this establishment, and which promises to be a charming addition to the dessert. It somewhat resembles the Bigarreau, but is more tender and sweet, and rather more highly colored.

Fruit rather large, regularly obtuse heart-shaped, with a pretty distinct suture. Skin thin, (slightly pellucid when fully ripe,) white, with a rich dark crimson cheek, (somewhat mottled,) covering more than half the fruit. Stalk an inch and a half long, set in an even hollow of moderate depth. Flesh yellowish, half tender, and of a very delicately sweet and luscious flavor. Leaves coarsely serrated, with dark footstalks. Ripens a few days before the Bigarreau, or about the 14th of June.

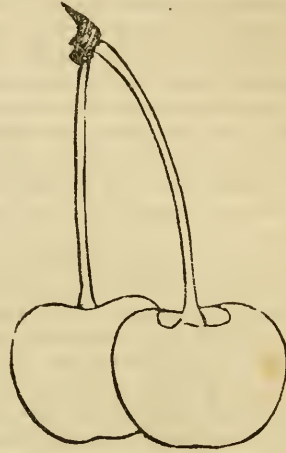


FIG. 5.

No. 5.—**ELTON.**—The Elton, a seedling raised in 1806, by the late President of the London Horticultural Society, is certainly one of the first of cherries in all respects. Its large size, early maturity, beautiful appearance, luscious flavor, and productiveness, render it universally esteemed. It is a cross-bred variety raised from the Bigarreau or Graffion with the White Hart for its male parent. The trees grow very vigorously, and are readily known, when in foliage, by the unusually dark red color of the footstalks of the leaves.

Fruit large, rather pointed, heart-shaped. Skin thin, shining pale yellow on the shaded side, but with a cheek next the sun delicately mottled and streaked with bright red. Stalk long and slender. Flesh somewhat firm at first, but becoming nearly tender, juicy, with a very rich and luscious flavor, not surpassed by any large cherry known. Ripens about the middle of June, or directly after the Mayduke.

For the Farm Journal. REAPER TRIALS.

DEAR SIR:—As a manufacturer, I desire to enter my protest against any more petty trials of reapers. They cost a great deal and amount to nothing. The decision at one trial is reversed the next week at another, perhaps with the same machines, and often the competitors can show their defeat was owing to some extraneous cir-

cumstance, as not having a suitable team, bad driving, or unfortunate management in some way.

A reaper trial is not like a horse race, where the sole object is to beat, regardless of everything except the coming out ahead: it is, or ought to be, to ascertain surely which is the best machine, and not so much to benefit the owner, as the farmers, who wish to know what kind to buy.

How absurd is for any set of men—I care not how great their experience and judgment—to take from three to a dozen reapers, perhaps all of acknowledged merit, and by the cutting of two acres each, as was done at the Wooster, Ohio, trial where mine was defeated; or even by cutting five or six acres as at the Richmond, Indiana, trial where mine was victor, decide positively and absolutely that one reaper is better than all others.

Such a trial might show whether a reaper would work or not, but to judge between rival reapers, of which there are over twenty of established reputation, each having its points of excellence; a long and thorough trial must be requisite, to see how they work in different kinds of grain, and under varied circumstances, and how they wear. A trial to be decisive should go through an entire harvest. One, too, that was thorough and reliable, would be equally available in one State as another. They are also expensive to all concerned. I would, therefore, propose a general trial on something like the following plan:

Let several State Agricultural Societies unite, each appropriating \$200 to \$500, and appointing one or two committee men, in whose experience, judgment and fairness, entire confidence could be placed. Let the committee make their arrangements as early as possible, adopt their rules, and appoint time and place of first meeting. They might begin South and proceeding North continue the trial for weeks if necessary, leaving out one machine after another as its inferiority became manifest.

The committee should have all their expenses paid, and perhaps compensation besides; and the cost of removing reapers from place to place might also be borne by the committee, in order to enable every builder to come into the trial; and for this reason I would not require any entrance fee, though some of the larger builders would doubtless be willing to contribute to the general fund. If five or more societies can be got to unite in such a trial, I will contribute \$200 to \$500, or as much as any other builder.

The surplus funds should be divided to the best machines, say half to the first, one-third to the second, and one-sixth to the third, to be paid in plate or money as might be desired by the winner.

To save time and expedite arrangements, I would suggest to parties interested to correspond with Col. B. P. JOHNSON, Secretary New York State Agricultural Society, Albany, New York. I have not communicated with him, but am quite sure his interest in agricultural matters will cause him to bear the labors with cheerfulness.

Yours respectfully, J. S. WRIGHT.

CHICAGO, Feb. 7, 1854.

Tea Culture.

Editors of Farm Journal:—Inclosed you have some leaves of the Chinese Tea Plant (*Thea Viridis*), that I

planted out in my nursery last year, which have been exposed out all winter *without any protection*. This is some evidence that they will stand the cold of an ordinary winter in this latitude. The plants are about 18 inches high, and appear to be very little affected, except at the extremity of the branches.

Respectfully,

JACOB HEWES.

Leiperville, Del. co., Pa., 3d mo. 7th, 1854.

For the Farm Journal.

CHEAT.

MR. EDITOR:—Some persons entertain the opinion that wheat and rye turn into *cheat*. Such an opinion is contrary to the injunction that every herb should bring forth seed after its own kind. As an illustration of this I will state that, about twenty years ago, a farmer of Montgomery county had some wheat that had a great deal of cheat in it, which he took out by putting the wheat into water, in which case the cheat floated on the surface—this was taken off and thrown into a hollow that was always too wet to produce vegetation—after it had lain there seven years the hollow was cleaned out, and the dirt spread on a field. Mr. B—— did not expect that the cheat would grow, but to his great surprise, when he put in a crop that was favorable to the growth of cheat, it grew thickly, and thus it continued to do for eleven years, although not a head of it was allowed to get ripe. Thus he clearly proved that if cheat be confined under mud and water seven years, and then kept in the ground buried too deeply to germinate for eleven more, it will grow when it is brought near the surface by the plow or otherwise. Hence it may be inferred that cheat retains the vital oil probably longer than any other seed, though, perhaps, not in all situations. The singular property of cheat has induced many farmers to think their wheat turned into cheat, because cheat has grown where they sowed clean seed, not suspecting that the seed of cheat will lie several years in the ground and then grow.

Since the above discovery, Mr. B—— has always been very careful to have his seed clean, and now he has scarcely a stalk of cheat growing on his land. Although his wheat has sometimes been very much hurt by the winter, &c., yet no cheat grew in the place of it. Where wheat fails the cheat has a better chance to grow, and it there makes the greatest appearance; but if it be closely examined, there will be no more roots found there than elsewhere, (other circumstances being the same,) but they will be larger and produce more heads. But where there is neither cheat sowed nor any in the ground, the grass will grow much more where the wheat fails; therefore, it would be as reasonable to say, that wheat changed to timothy as to cheat. J. S. G.

Media, March 25, 1854.

For the Farm Journal.

THE FARMER.

MR. EDITOR:—No man, one would think, would feel so sensibly his immediate dependance upon God as the farmer. For all his peculiar blessings he is invited to look immediately to the bounty of Heaven. No secondary cause stands between him and his maker. To him are essential the regular succession of the seasons, and the timely fall of the rain, the genial warmth of the sun,

the sure productiveness of the soil, and the certain operation of the laws of nature, which must appear to him nothing less than the varied exertions of omnipotent energy.

In our happy America, yea Pennsylvania, we surely stand in the midst of the mighty theatre of God's protective power; and we should feel an unusual proximity to our Creator. The blue and tranquil sky spreads itself over our heads, and we acknowledge the intrusion of no secondary agent in unfolding this vast and beautiful expanse. Nothing but the great omnipotence can work up the dark and fearful horrors of the tempest, dart the flames of lightning, and roll the long resounding rumor of the thunder. The sweet and refreshing breeze wafts to the senses the odor of God's beneficence, the voice of God's power is recognised in the forest, and all the varied scenes of existence, activity and pleasure, which he observes at every movement, in the crowded city, where wealth and power corrupts the more nobler virtues of man, down to the peaceful and happy home of the farmer of the soil, lead him impartially and irresistibly, one would think, to the source of being, beauty and gratitude.

How propitious such an existence to the nobler opinions of piety! Besides, the situation of the husbandman is peculiarly favorable, it would seem, to purity and simplicity of moral sentiment. He is brought acquainted chiefly with the real and native wants of mankind. Employed solely in bringing food out of the earth, he is not liable to be fascinated with the fictitious pleasure, the unnatural wants, the fashionable follies, and tyrannical vices of more bustling and splendid life. J. S. G.

Media, March, 1854.

For the Farm Journal.

Suggestions to the Executive Committee of the Penna. State Agricultural Society.

To the President and Executive Committee of the Pennsylvania State Agricultural Society:

GENTLEMEN:—After having retired from your board, I deliver to you my valedictory, and respectfully present to you the following suggestions:

You have the thanks of the farming community. You have raised them out of a state of apathy throughout the country. That salutary excitement has called into existence agricultural societies in many counties. It has also called into existence our excellent FARM JOURNAL, which is really worth its dollar and ought to be in every farmer's family. You have now kept up that excitement for three years. If I have not attended regularly to your stated meetings, it was because I thought it unnecessary to travel a long distance merely to assist in organising an agricultural show. I left it to those gentlemen who lived in the immediate vicinity of Harrisburg. But it is now high time that something substantial—something tangible—should be done that will be really beneficial to the farmer, otherwise this now so salutary excitement will soon die away. Agricultural fairs ought only to be confined to county agricultural societies. It is merely a secondary matter. Farmers are willing to assist at them, but not to travel a considerable distance with their stock. The State Agricultural Society ought to occupy itself with more important matters. No practical farmer will pretend to say that agricultural exhibi-

tions will directly and substantially improve agriculture. County agricultural fairs are agreeable meetings among farmers where neighbors, who are mutually acquainted, can give each other useful information.

I am sorry to see the committee on crops recommending to raise the premiums. It is a useless waste of the funds granted by the State. What benefit will it be to agriculture? Has the Pennsylvania farmer no other impulse than to be stimulated with a few dollars to improve his farm? Don't present him with reports of doubtful authority? No farmer in Chester, Lancaster or Berks county, will undertake to raise one hundred and fifty-eight bushels of shelled corn to the acre. Such a phenomenon appears to be reserved to the northwest and southwest of this State.

The farmers of Pennsylvania have hundreds of thousands of horses and cattle, and no veterinary surgeons to attend them but self-styled horse doctors and cow doctors. The Pennsylvania State Agricultural Society has now a fund of fourteen thousand dollars. Now, gentlemen, choose a central town, accessible by different railroads, erect a building for a veterinary college, and geological and mineralogical institute. Procure competent professors of the veterinary art, also a professor of geology, mineralogy and agricultural chemistry. Give each a salary of one thousand dollars, the amount granted to you by the State. I will not enter into a more minute detail of its organization, which is left to the consideration of your board.

In my youth I attended a course of lectures for two months on practical anatomy in dissecting horses. It has given me so much information, that with the assistance of veterinary works, as to attend to my own horses when sick without the assistance of so-called horse doctors. It would soon be seen that our young farmers would flock to such an institution, principally in winter time: seasons when practical anatomy can be performed. It would also throw much light on the merits of the different breeds of cows, to ascertain where the milk organs are the strongest developed.

The geological department would also find much favor with our farmers' sons. The professor taking his pupils on frequent excursions to explain the different parts that constitute the soil, its bearing and effect to the growth of plants, also what is necessary to promote and stimulate vegetation, &c., &c.

The farmer would see there its real utility, and give his hearty pecuniary support to the State Agricultural Society. It would, of course, be more useful if an experimental farm and farm school could be connected with it, but the present situation of the State finances will not permit it. To organise them on a small scale to admit only a few pupils would create dissatisfaction and jealousy. Such schools should be located in different parts of the State, according to the different quality of the land, and accessible to a large number of pupils.

Bethel, March, 1854.

H. SHUBART.

For the Farm Journal.

Productive Crops in New Jersey.

MR. EDITOR:—In reading the March number of your Journal, I see that in Philip R. Freas' address before the Tredyffrin Agricultural Society, he speaks as if New Jersey was nothing but a bed of sand; I would like

to inform the Major that it is not all a bed of sand.

Last season I raised ninety-five bushels of clean Rye on five and a half acres of ground. Some of the straw measured six feet long after it was cradled. Also three pecks of small Mercer potatoes yielded sixty bushels of good potatoes. I would like to hear of Mr. Freas raising that amount on a mere sand bed.

P. A. MASON.

HAZLEDELL FARM, Gloucester Co., N. J.

EUROPEAN AGRICULTURE—No. 4.

Works on Agriculture—History of Lime—Its Appropriateness as Reading Matter for Chester County Farmers—The first Observations of Burned Lime, and the Ideas Entertained by the Ancients respecting it.

LEIPSIK, Dec. 28th, 1853.

MR. EDITOR:—The cold Russian blasts that sweep over the ground as it is white with snow, having shut up the last remnants of vegetation, there is not much left here for the farmer to look at by way of observing crops, or the means resorted to to raise and gather them from the fields. Nor do I suppose the opportunities for such observation are much better in your part of the land of the "stars and stripes." But this is the proper season of the year for the farmer to read, and I can wish him nothing worse than that some of the scores of excellent works on agriculture that throng the Leipsic book market, were well translated, and in his hands, to be read during the long winter evenings that now pass away. Books written by scientific men and university graduates, who carry on or superintend the practical operations of large tracts of land. Thus combining theory and an intelligent practice.

It is true we have several of Liebig's works on agriculture translated, but they are generally old before they reach the farmer. They do not contain the latest observations and experiments in the science of agriculture.

Here, on the contrary, a man who wants to get the latest scientific investigation on the subject of farming, never pretends to get an edition of a book more than one or two years old. We can depend upon the present year for an abundance of reading matter from the highest authorities in the world, almost as confidently as he can that he will not be obliged to substitute last year's almanac for this year.

From a work on the history of Chemistry, embracing over 2000 pages, which has lately appeared, and which now lies on my table, I propose extracting the *history of lime*, which I think may not be uninteresting to the farmers who read your Journal.

If there is any class of people who, particularly more than others, should be made familiar with the history of lime, it is the people of Chester and its adjoining counties.

The persevering industry that has marked their course in liming, through a long series of years, has few, if any, parallels south of the Hudson. This may seem an extravagant assertion, but when we look at the wide and deep excavations that her quarries present, when we see the difficulties of quarrying in many of them, (large quantities of earth to remove from the top of the stone which, when it is reached, is enveloped in water, which

must be pumped or drained off,) and lastly, when we consider that a large proportion of the material excavated has been hauled, without the aid of steam, twelve, fifteen or twenty miles; that much of the wood that was used to burn it has been by the same means hauled an equal distance; that gneiss formations and mica slate fields have, by hauling this distance, been brought almost by lime alone, (by lime and such vegetable matter as started into existence by the action of lime,) from what has been deemed in other parts of the Union hopeless poverty to luxuriant gardens, equaling in the amount of their productions the alluvial soils of the Mississippi valley, I repeat when all these things are considered, we may well repeat the question, where do you, in the use of lime, find a parallel. Almost the first question with a large proportion of our farmers, when they are going to purchase land is, "how far is it from lime?" while there are hundreds of farmers in the United States that do not know lime is used as a fertilizer at all, and thousands there are who have never seen a bushel of it applied to this purpose: and even further, there are hundreds of people in the Mississippi valley who don't know that stable manure has any fertilizing properties about it. They are ignorant of it for the same reason that many intelligent farmers are ignorant of the chemical character and constitution of lime. Simply because mother necessity has not required them to learn it. Thus much in reply to an anticipated remark, that too much importance was attached to the perseverance of Chester county farmers in the use of lime. The developments of time may show, and for the sake of the future I hope they may, that much less lime might have sufficed had it been used in connection with other agents required by the soil. But this part of the subject we will pass over for the present to enter upon the history already alluded to. In translating it, the aim will be to get at the idea more than to make a literal translation, and to introduce such parenthetical remarks as may seem necessary to make it understood by farmers, and those who are not chemists, for whose reading the work is more particularly adapted.

After devoting several pages to the history of potash and soda, and the first ideas the ancients had of ashes and the causticity of the same, the author goes on to remark:

"That the early application of lime to making mortar, for the purposes of building, is the most remote period to which we can trace the history of the practice of burning lime.

"The first authors who gave any definite information on the subject of lime burning, and the changes that common limestone undergoes, by which it is converted into burnt or caustic lime, were Dioscorides and Pliny. (Dioscorides was a physician of Asia Minor, who flourished in the middle of the first century; he wrote five books on medicine, that are recognised as authority to this day by the Turkish physicians; he was also the author of several discoveries in chemistry. Pliny—the greatest writer in natural history—the author of 37 books, 4 of which were devoted to chemistry. He was smothered in an eruption of Mount Vesuvius in A. D. 79. He became so absorbed in the phenomena of the burning mountain that, forgetting his own safety, he was en-

veloped in sulphurous fumes.)

Disacoridae remarked thus early that caustic lime could be obtained from oyster shells, by heating them till they became perfectly white. It could also be obtained by heating limestone or marble.

It is supposed that the ancients obtained their first ideas of causticity from observing burnt lime, (which, of course, was long before it was definitely described.) This author says it is a fiery, hot caustic substance, and its causticity is particularly dwelt upon, as a peculiarity by which it may be distinguished.

Paulis Agineta, a great Greek physician of the 7th century, who wrote seven books on medicine, spoke of the use of caustic lime to prepare caustic potash or soda. He says the wash-water from ordinary ashes is called ley, but when this ley is mixed with a solution of lime water it changes its character, becomes caustic, and is called caustic ley. (This phenomenon, so long ago observed, is thus explained: Common ley holds in solution potash and soda, in unison with a substance called carbonic acid, which latter substance is formed from the decomposition of the vegetable juices in burning wood; when lime in solution is added to the ley it takes this carbonic acid from the potash and soda, and leaves them caustic, while it in the operation loses its causticity, and becomes mild (or carbonate of) lime or common limestone.

Any one can see this re-action take place if they will add a little solution of clear lime water to ordinary ley, that has been "run off" without any lime in the ashes. The mild lime or limestone formed being insoluble in the ley solution, will settle down as a white powder to the bottom of the vessel.)

But previous to the time of Paulis Agineta, the Egyptian and Arabian Alchemists were familiar with the effect of caustic lime upon the ley of ashes. (All chemists previous to the 17th century are called alchemists. They date their origin not far from the christian era. They were at first principally Arabians, but finally spread into Egypt, from Egypt to Greece, and then Rome, and finally from the 13th to the 17th century all over Europe. All their investigations were based upon a most palpable absurdity, which they assumed as a fixed fact, viz: That there was such a thing in existence as the "Philosopher's Stone," or "Stone of the Wise," which, when brought in contact with the gross metals as iron, tin, &c., while the latter were in a melted state, would instantly transform them into gold. And to find this stone almost the entire labor of the alchemists were directed for over 800 years. Every conceivable substance was sought for it to no purpose, except it was to stumble upon a great many facts of importance that were not at all anticipated in the outset.)

Theophrastus, a pupil of Aristotle and Plato, said, 300 years before Christ, that gypsum (sulphate of lime or common plaster) might be more of the nature of a stone than an earth, (an earth being a substance "insoluble in water and infusible.") He wondered what was the cause of its warmth when moistened. He spoke of its property of consolidating after being wet, and said that it must be used as soon as made, as it soon becomes solid. He considered it had some relation to lime.

Disacoridae said nothing about the effect of water on

lime, yet he must have observed it, because he called the caustic lime "unslacked."

Pliny says expressly that it dissolves readily in water.

But the real nature of the change, which takes place in limestone under high temperatures by which it is converted in carbonate of lime, was not till a much later period understood. This change as now known is thus shown,

(Lime, plus Carbonic Acid,) is Limestone.

by heating, this carbonic acid, amounting to nearly half its weight, passes off at the top of the kiln and leaves

(Lime, plus nothing, or Burnt Lime.

For a long time they considered the caustic and the mild alkalies, as caustic potash and soda, and their carbonates as substances only differing very slightly from each other.

For instance, Geber said, in his writings on this subject, that *sal alkali* (the alkaline substances now known to consist of soda and potash,) was prepared in two different ways; by one way it was prepared from soda, and he gave a method to make it, but the substance really made was crystallized carbonate of soda; by the other method it was made from wood ashes, and the substance made was carbonate of potash.

Thus were two different substances made by different means, from different materials, considered as one and the same substance.

Basilius Valentinus, a monk of the latter part of the 15th century, was the first who gave any insight into the real difference between the caustic and mild alkalies. In his remarks on the philosopher's stone of the ancients he says, with reference to the caustic and mild alkalies, that the salt (*sal*) of the tartrates (*weinsteins*), as the tartrates of potash by themselves, but more strikingly when the heat of the quick lime was incorporated with them solidified, and by combining with other bodies made them fire proof.

Here, says our author, already is the opinion advanced, that it is a particular substance that makes the lime caustic, and that this substance goes from the lime to the tartrates when they are made caustic by it.

This opinion was thus modified, and received for a long time (over one hundred years) as the best explanation of the phenomena witnessed in lime burning, to wit: That lime by burning obtained from the fire a fire material, (it is now known that it merely gives off carbonic acid, by which it becomes caustic lime,) which fire material it gave off in part when heated with water, (it merely absorbed a portion of water which rendered it less caustic,) and when mixed with ley it gave off all this fire material, (it became carbonate of lime as already explained, and this having no causticity they supposed it had lost its fire.)

This is the state of the knowledge of the world respecting lime after we trace its history for over 1000 years, and see it about the close of the 15th century. It is interesting to compare the opinions of men of the present day, who have been familiarized with the practical part of lime burning, but who have not availed themselves of the researches of modern science into the theory of it, with those of these ancient investigators.

There is not unfrequently a similarity between them.

How many different answers might not even to-day be received to the question, "why does lime become caustic by burning," if they were put to that part of the community that don't read the agricultural papers? Adieu, at present.

E. P.

For the Farm Journal.

Bedford County Agricultural Society.

MT. DALLAS FARM, Feb. 20th, 1854.

MR. EDITOR—Dear Sir:—The "Bedford County Agricultural Society" met at Bedford on the 15th inst., at which time the annual election of officers took place.

The society is in quite a flourishing condition, and its members are determined to spare no efforts to make our annual exhibitions as attractive and meritorious as those of any other county in the state, *population of course being equal*.

Our society is quite young, still we have a surplus in the treasury of nearly (\$300) three hundred dollars, which, though not a very large amount for these "golden times," shows that we are not *bankrupt* at least. And had it not been that many individuals took advantage of our unguarded and unsuspecting regulations in regard to ingress and egress at the last fair, the amount of surplus funds would be much larger.

But our interests will be better protected it is hoped this year, since we have "learned wisdom from experience," and then these *graceless non-payers* will be compelled to *pay* for the gratification of their curiosity, or else remain outside with the dogs. (I ought to have inserted *other* before the last word.)

A committee was appointed to enquire into the practicability of purchasing or renting grounds, suitable for the use of the society at her future exhibitions, as the court house, jail yard, and public square, cannot afford sufficient compass for the increasing prosperity of our society. Among other things the following resolution was unanimously passed:

"Resolved, That the Representatives in the State Legislature from this district be requested, on behalf of the Bedford County Agricultural Society, to vote for any which may be brought before their honorable bodies for the protection of fruit, grain, vegetables, &c., &c."

Before closing I wish to state one fact. Though present at the three exhibitions of the State Society at Harrisburg, Lancaster and Pittsburgh, and saw some small, aye quite *insignificant* towns in our State represented by at least four or five *judges*, I did not see Bedford county represented by a man with a "*white ribbon on his leaver*." Bedford county has never yet had any of her citizens to officiate in that honorable, though not enviable, capacity, though there are many persons in our county who are members of the State Society, and as a State Society her officers and judges ought to be selected from every county in the State, at least we think so. Besides men can be found in our county as sufficiently "*compos mentis*," as some individuals whom I saw officiating in that capacity, who were besides neither *farmers nor mechanics*, from which classes the majority of the officers, managers and judges should be chosen.

I mention these things, sir, for this reason. Partiality exists to a greater or less degree in the minds of all men.

Now were these judges all chosen from one county, it is very likely their minds would be biased towards the articles and produce of that county, at least where two articles are very nearly equal, the "*amor in patriam*" will make the decision, so that I think our county should not be slighted, and if it shall be, by the "powers that be" we will certainly declare *our independence*, and then what will become of the State Society!

The following persons were elected officers for the ensuing year:

President—Maj. Samuel Davis, Bedford Borough.

Vice Presidents—Thos. M. Lynch, John Dickey, Benj. R. Ashcom, Michael Halderbaum.

Recording Secretary—John Mowrer, Esq., Bedford Borough.

Corresponding Secretary—William Hartley, Bloody Run P. O.

Treasurer—Samuel Brown, Bedford Borough.

Very respectfully, your ob't servant,
WM. HARTLEY,
Cor. Secretary.

For the Farm Journal.

Your correspondent in Leipsic would benefit the farmer here to make himself acquainted with sheep raising in all its details (Schafferien); the great advantages to manure the land by means of the (Schaffferg) sheepfold over night, &c., as those seen in the neighborhood of Weimar in Saxony. It would be a source of profit here in our mountain region. It is *folly to keep* large flocks of sheep without being under the care of a shepherd.

Respectfully yours,

Bethel, Berks county, Pa. H. SHUBART.

For the Farm Journal.

Proper Time for Cutting Wood.

I will inform the readers of the Farm Journal, from 10 to 15 years experience, that fire wood cut and split, and put under a shed to season, in a green state, is fully worth one-third more than when dried standing in the cord the usual way.

PETER S. ALRICKS.

New Castle Hundred, New Castle co., Del.

Camden and Gloucester Counties' Agricultural Society.

MR. EDITOR:—The Camden and Gloucester Counties' Agricultural Society held their annual meeting on Feb. 28th, 1854, at Woodbury, and appointed the following gentlemen as officers for the ensuing year:

PRESIDENT—Benj. W. Cooper.

VICE PRESIDENTS—John R. Sickler, Charles Reeves, Jos. B. Tatem, Chalkley Albertson.

REC. SECRETARY—Wm. H. Nicholson.

COR. SECRETARY—Amos J. Peaslee.

TREASURER—Wm. E. Cooper.

COM. FINANCE—James A. Lord, Chas. H. Shinn, Wm. R. Tatem.

COM. TO REPORT A SCHEDULE FOR PREMIUMS—Edward Battle, Benj. J. Lord, Jos. W. Reeves, J. Morgan Barnes, Jonathan Colson, Samuel S. Willits, Wm. P. Tatem.

Two gentleman from each township in the counties were appointed a Committee of Ways and Means, as follows:

CAMDEN COUNTY—Waterford, Jesse Peterson, Thomas Porter; Delaware, Joel Horner, Jos. A. Burrough; Camden, Charles Kaighn, Jacob S. Collins; Newton, Wm. T.

Ward, Wm. Bettle; Gloucester, Jos. Wolohon, Ephraim Tomlinson; Washington, Wm. Hudson, John F. Bodine; Winslow, Andrew K. Hay, Jos. Shreeve; Union, Charles L. Willits, Chalkley Glover.

GLoucester County—Deptford, Clement C. Whittall, Henry M. Garrigues; Greenwich, Thos. D. Brown, Amos J. Peaslee; Woolwich, Alex. Black, J. Morgan Barnes; Mantua, Hugh A. Law, John Gault; Harrison, Jonathan Colson, Edward Colson; Franklin, Thos. H. Whitney, Woodward Warrick.

The appointment of the Committee of 120 to arrange for the coming exhibition, and award premiums thereat, was, on motion, deferred till next stated meeting.

Then adjourned to meet at the Court House in Woodbury, on the last Third Day (Tuesday) in the Fifth Mo. (May) next, at 2 o'clock, P. M.

WM. H. NICHOLSON, Rec. Sec.

Officers of the Union County Agricultural Society.

PRESIDENT—Jacob Gundy.

VICE PRESIDENTS—Samuel Shadle, Daniel Witmer, E. R. Mengos, Henry C. Eyer, George Dauberman, John Swengel, Jacob Beaver, H. H. Margaritz, Jacob Sanders, John Wilt, Robert B. Barber, Abs. Swineford, Isaac Eyer, David Watson, Wm. Vanvalzah, Geo. Dreisbach, Isaac S. Sterner, Thos. Howard, Samuel Henderson.

COR. SECRETARY—Richard V. B. Lincoln.

REC. SECRETARY—O. N. Worden.

TREASURER—Robert H. Laird.

LIBRARIAN—Samuel Weirick.

EXECUTIVE COMMITTEE—Jas. P. Ross, Isaac Slenker, Hy W. Snyder.

Officers of the York County Agricultural Society.

PRESIDENT—John Evans.

VICE PRESIDENTS—Joseph D. Wiley, John Emig, Jr., John Reiman, George Snodgrass, Henry Keeney, Jacob Young, Jacob Hauer, Jacob Cocklin, Joseph Wickersham, John Smith, Col. Henry Logan, Archibald Thompson, Christian S. Gerber, Peter Peter, George Eichelberger, Dr. R. Nebinger, Jacob Bahn, B. H. Mossett, Jos. Detweiler, Daniel Loucks, C. T. Raffensperger, J. Wiest, Daniel Rutter, Jesse H. Wentz, Adam Free, David Bahn.

MANAGERS—Dr. Alex. Small, Daniel Hartman, John Weistler, Henry Smyser, Jacob B. Bachman, George Wogan, J. S. Haldeman.

REC. SECRETARY—Dr. W. S. Roland.

COR. SECRETARY—Dr. J. W. Kerr.

TREASURER—William Wagner.

Clarion County Agricultural Society.

At a meeting of this Society held on the 8th of February, the following officers were chosen for the ensuing year:—

PRESIDENT—J. M. Fleming.

VICE PRESIDENTS—J. H. Corbett, Jos. Cochran, Wm. McKillip, John Trainer, Lot Watson, A. Probasco, Ross M. Corbett, John Foglebocher, Samuel Thompson, Philip Kribbs, Benj. Junkin, Wm. Black, D. Brennenman, J. H. Seigworth, Geo. Callihan, Fred'k. Smith, S. Kifer, Wm. Curll, Peter Reed, F. Mohny, Henry Over, John Wyncoop, J. T. Printer, George Means, Robert Stewart.

TREASURER—Wm. T. Alexander.

CORRESPONDING SECRETARY—Amos Myers.

RECORDING SECRETARY—W. W. Barr,

LIBRARIAN—C. L. Lamberton.

EXECUTIVE COMMITTEE—Miles Beaty, C. Myers, Samuel Young, James Campbell, Peter Clover, Jr., G. W. Consor, Rich'd. Shippen, Hugh Craig, Wm. Frampton.

Fraud in Fruit Trees.

The Worcester Spy calls the attention to the fact that many of the fruit trees sold by travelling agents are worthless. These trees are said to be manufactured in the State of New York, by a short process, called root grafting. It is done by taking the roots of old trees in the winter, and cutting them up into short pieces, into which is grafted a scion. They are then packed away in the cellar till spring, when they are set out, and in two years they answer to cheat the *greenies* with, who buy trees of irresponsible, strolling dealers. They will grow very well in the nursery, like trees raised from suckers, for three or four years, but like them they soon come to a stand, assuming the appearance and decrepitude of old trees. Many kinds, grown in this way, that are naturally very good bearers, will hardly bear at all.

WORK FOR THE MONTH.

FARM.—Read over directions of last month, and attend to what was omitted. Sow oats as soon as the ground is in order; harrow it thoroughly and then roll. Pass the roller over mowing fields; also top dress winter grain not previously manured, with short manure or guano and plaster. Plow for corn, and subsoil before ground becomes too dry. Much of the success of the crop depends on good plowing and preparation of ground. Avoid such plows, as turn up and leave a smooth, glazed and unbroken furrow. The sun often hardens such into lumps impervious to harrow. Fine pulverization of soil is of great importance. Open seams and cracks in the furrow, which admit the air, greatly aid the subsequent operation of the harrow. Spread the manure or guano previous to plowing. In ordinary seasons there is no advantage in planting corn in this section before second week in next month, but the ground should be often stirred previously. Plant early potatoes. Plow and prepare for root crops. Also for sowing corn for fodder, when there is likely to be a necessity for it. Give particular attention to stock. After being well cared for all winter, they often fall off in last month before pasturage. Ewes and lambs should have allowance of grain and roots and good hay, daily turned out in fine weather on a pasture lot reserved for the purpose. Continue or increase the allowance of meal and roots to fresh cows. It is an old saying that stock well wintered are half summered. They should go out to grass in good order. There is never any profit in keeping stock below the thriving point. To merely keep them alive will not pay. Do not turn out the stock to grass too early. Feed well all working cattle, both oxen and horses. Cut hay is of great advantage, as it economises time, and gives animals more time to rest between working hours. It takes them less time to eat it, and is easier digested. Give all animals daily access to salt.

FRUIT ORCHARD.—Planting trees may still be done this month, and in doing so, cut off all bruised and bro-

ken roots; make the cut from the lower part, so that the cut surface may be down. Head in, by cutting off the ends of branches of large trees. See to peach trees that the worm is not at work. If the earth was removed from the body of the trees last fall, put a shovel full or two of wood ashes around each tree, and return the earth that was taken away. Quince trees should be dug around and well manured; we have found that salt scattered under them answers an excellent purpose in producing fair fruit. Gooseberries, currants and grape vines two years old, from cuttings, should now be transplanted in places; in digging the holes, make them large and deep, filling in what was before occupied with subsoil with surface loam, leaving the subsoil on the top to become improved by the contact of sun and air. These should be heavily manured, as the gooseberry and currant are rank feeders. All transplanted trees should be mulched by putting around the roots manure hay or straw. Grafting apple and pear trees may still be continued till the leaves begin to expand, if the grafts were cut in season and properly taken care of. Cherries, plums and peaches should have been done last month. Remove all insects from trees, and apply wash before recommended, and remember that trees need cultivation.

VEGETABLE GARDEN.—This is an important month in the garden. Finish planting out esculents for seed, and at a distance from others of the same genus. All kinds of seed may usually be planted this month, reserving such as are tender of frost till the last. Make plantations of asparagus. Plant out rhubarb, horse radish and onion sets. Sow peas, radishes, lettuce, every few days for a succession. Plant out cabbages, cauliflower and lettuce from cold frames. Plant Lima beans, cucumbers and melons in pots, under frames or in inverted sods, to set out when weather is settled. Transplant medicinal herbs, and sow seeds for more. Keep ground hoed and stirred and free from weeds. 500 pounds of guano to the acre has been found equal to ordinary dressing of manure for vegetable growing.

FLOWER GARDEN.—Continue the directions given last month, all such work as pruning roses, and flowering shrubs, honeysuckles and creepers of all kinds, laying sod, planting box edging, transplanting herbaceous plants, manuring and digging the flower beds, should be concluded this month. Continue to plant evergreens, and all kinds of shrubbery. In the rage which exists for ever blooming plants, some of the brightest gems of the flower garden seem to be thrown completely in the shade, we would gladly lend a hand to bring them into the sunshine, (especially *Wiegilia Rosea*, *Forsythia Veredissima*, *Spiraea Revesii*, *do Prunifolia*,) for this reason, that they bloom before the earliest rose. If the weather is suitable, flower seeds may be sown on a warm border the latter part of the month. A good method to plant them is to break the soil very fine, (if the soil is of a clay nature, mix a little sand to loosen it, otherwise the seeds will not be able to germinate,) then take a six inch flower pot inverted, and press the soil, sow the seed in the ring made by the flower pot, if the seed is very fine, merely pressing it with the flower pot will be found sufficient; other kinds should have a little soil strowed

lightly over them. A good lesson is to be learned on this subject if we observe the successful germination of seeds dropped from the parent plant. Tulips, hyacinths, Narcissus, &c., may be planted the early part of this month. Plants that have been wintered in cellars should be brought out the latter part of the month; but previous to that they should have fresh air admitted to them as freely as possible.

Clements' Live Stock Agency.

The Plow, Loom and Anvil says: While in Philadelphia recently, we visited the extensive live-stock agency of Aaron Clements, Esq., in Cedar street. Mr. C. has the choicest breeds of cattle, horses, sheep, turkeys, ducks, hens, &c., &c., constantly on hand, which he is selling at a fair price, and thus affording the agricultural community easy and cheap facilities for improving their stock. He ships to any part of the Union, and orders may be given by mail with every assurance they will be promptly and satisfactorily answered. Mr. C. has been engaged in raising stock for more than a quarter of a century, and possesses unusual qualifications for conducting such an agency.

RAISING WHEAT AND CORN.

[The following directions for raising wheat and corn are from the pen of an excellent practical farmer:]

In order to raise a good crop of wheat on most soils, it will be necessary to sow no more ground than you can well manure. If the land is good, the wheat may either be sowed broadcast over the ground, say two bushels to the acre, or drilled in. After the ground is well plowed and harrowed, sow from the middle of the 9th to the 1st of 10th month. Select the best wheat for seed. Be careful to have it free from other seeds. On $9\frac{1}{2}$ acres I raised the last year 333 bushels of wheat, averaging 36 bushels to the acre, and weighing 62 lbs. to the bushel. It was the white chaffed Mediterranean variety.

My method of raising corn is to lime the ground the summer before it is intended to be planted, say from 40 to 50 bushels to the acre; plow the following spring about eight inches deep before the ground has ceased freezing; plant about the 1st of 5th month, and not later than the 10th. I have raised for years in succession from 50 to 80 bushels to the acre, planting the same ground but once in 8 or 10 years. I select when we are husking the best corn for seed. Thine respectfully,

J. L. DARLINGTON. ELLWOOD MENDENHALL.

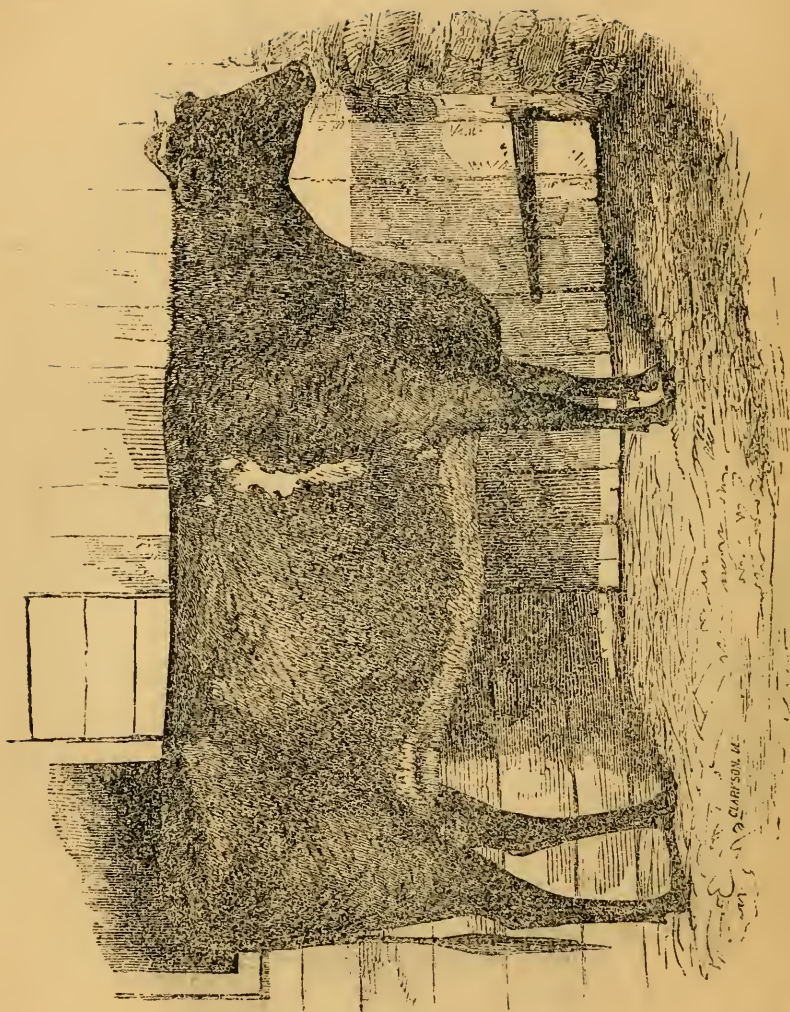
Apples without Seeds or Cores.

A correspondent of the *Memphis Whig* gives the following receipt for obtaining apples without seeds and cores:—Take the ends of the limbs of an apple tree, where they hang low, so as to reach the ground, dig a hole for each end under the tree, bend it down and bury it in the hole, confining it down so that it will remain. Do this in the winter, or beginning of spring. The end of the limb thus buried will take root, and put up sprouts of scions, which, when they become sufficiently large to "set out," dig up at the proper season, and transplant them in the orchard where you wish them to remain. When they get large enough to bear, they will bear apples as above. [Doubtful.]



BRAHMA POUTER FOWL.

Obtained by Jonathan Downer, of Lancaster, Pa., purchased by Clarkson, 182 Chestnut street, Philadelphia, age 10 months, weight of the male 11 pounds 8 1/2 and 9 pounds. Mr. D. has one of the finest collections of choice fowls in the State, and is sending large orders to all parts of the country.



SYLVIA.

A Short Horn Heifer, 2 years old, owned by Aaron Clement, and sold to Richard Wistar, of Philadelphia.

DEEP PLOWING.

We must again urge upon our readers the great importance of deep plowing in the first breaking up of their ground for corn. We hear it often said that it is better to plow shallow for corn, and to go deeper for the succeeding crop of oats, but we have seldom found this to be done, if the proper depth was not attained in the first breaking up of the sod.

In nearly every section of the country there will be found farms where the soil has not been stirred, since the forest was cleared, deeper than three to five inches, the latter depth being considered an extreme. We know of one case where a farmer threatened to whip a lad about 16, who was his plowman, all around the field, if he was able to detect the least evidence of upturned yellow clay when the plowing was finished.

The consequence of this unreasonable practice has been to restrict the supplies of food for crops to a *given* and *limited* portion of soil, and by a continued practice of cropping for a long series of years, to exhaust this of the necessary inorganic elements which enter more or less into the constitution of plants, and are as indispensable to their healthy growth as air, light or heat. A friend of ours, near Philadelphia, raised last season one of the best crops of oats in his township by simply plowing *six inches deeper*, on an old, worn out and neglected field, than the plow had ever before gone, and without any manure. Our friends in the South are often ridiculed for their wasteful habits of farming, and disposition to leave their lands worn out by improvident culture, and commence again their system of exhaustion on a new soil. The sons of many of our northern farmers are guilty of the same thing, and consider farming will not pay when their crops are yearly diminishing, chiefly for want of going a trifle deeper with the plow. There is literally a mine of mineral wealth very often an inch or two below the depth of our ordinary plowing, and which only needs turning up to the influence of sun and air to be immediately available. Another very important advantage is, that by a greater depth of soil you counteract the effects of a too dry season, or a too wet one. In the one case, the roots have a chance to penetrate in search of moisture, and in the other, the excess of water has an opportunity to pass off, and not stagnate about the roots of plants.

Subsoil, double Michigan, and deep mould board plows are more sought for the present spring than we ever recollect to have known, and we hail it as one of the very best signs of the times. The reason and common sense of the thing are too obvious to escape the attention of the intelligent farmer. While we willingly admit that a cold subsoil, turned up to the sun for the first time, may not be *immediately* favorable to the quick germination and early growth of seeds, we also say that the remedy is most obvious. In the present era of fertilizers, a very trifling expense for superphosphate of lime, guano or poudrette, to each hill of corn, will stimulate its *early* growth till the roots are able to push down in search of food. We have repeatedly seen and known corn planted on contiguous farms the same season, on shallow and deeply plowed land, where no stimulus was applied to the hill, and although on the former the corn appeared to have the advantage for the first few weeks, it has

been invariably excelled by the latter before the season was over, both in quality of product and appearance. We hope where farmers are dubious on the subject, they may be induced to try part of the field, by attaching an extra pair of horses or oxen to the plow, and letting it sink 8 to 10 inches, and then giving us the comparative results next fall in the Farm Journal.

ROOT CROPS.

We hope farmers, who have heretofore neglected the appropriation of a piece of ground for root crops, will not neglect it the present spring. To those who have already proved their great value for winter feeding to stock nothing need be said. No farmer who has once raised a crop of roots would willingly be without them.

Carrots, sugar beets, ruta baga, parsnips, all have their advocates, and it would be well for the beginner in root culture to try a portion of ground with each, and thus test their comparative value and productiveness.

Carrots are the general favorites, both for horses and neat cattle, and the demand for them for the former is rapidly on the increase in our large cities. At the present price of grain, there is great economy, as well as advantage to the horse, in substituting a half peck of carrots for the oats once a day, and his condition will be greatly improved by it. Carrots have been frequently raised at the rate of 1000 to 1400 bushels to the acre, and for milch cows in the winter season they are probably unequalled by any other root crop. With their aid and a very small quantity of meal, cows may be kept to their milk for the three or four winter months without difficulty. It is often said that a winter dairy will not pay. This we can readily believe if cows are confined to dry hay and meal, especially at the present prices of grain. To make good butter in winter, they must not only be supplied with plenty of nutritious food, but particularly such as is juicy and succulent. Butter of the first quality has readily commanded in Philadelphia market, the past winter, from 31 to 50 cents per pound, and nothing has been quite so difficult to obtain even at those prices. With the aid of roots and proper management of cows in other respects, they may be kept in profit at least one-fourth of the year longer. It is idle to expect cows to give rich and wholesome milk and butter, unless some attention is paid to the requirements of the animal economy, and the raw materials furnished them from which only it can be manufactured.

Several requisites are important to root culture. A deep and rich soil, thorough preparation of the ground, and fine pulverization, effected by repeated plowings and harrowings. The ground after being deeply plowed, as soon in the spring as possible, should be kept harrowed every few days till the seeds are planted. This has the effect to destroy millions of weeds, which just germinate and will be killed by exposing fresh surfaces of earth to the hot sun before they become rooted. If the seeds of weeds are left to start, and grow to some size, and their extirpation postponed till the crop is in the ground, a vast amount of labor with the hoe will be required and great additional expense.

Carrot seed is often steeped with advantage from 12 to 24 hours in soft water, and then rolled in sand or plaster. It is rather slow in vegetating.

United States Agricultural Society.

The second annual meeting of the United States Agricultural Society was held in the Smithsonian Institute, Washington, on the 22d, 23d, and 24th days of February. No business was done on the first of these days on account of its being the birth day of Washington—the society simply meeting and adjourning. On Thursday—the second day—the President, Hon. Marshall P. Wilder, delivered his annual address, which was ordered to be published.

Mr. Denton Offutt, of Lexington, Ky., moved the appointment of a committee on animal physiology, and the general improvement of domestic animals. After several gentlemen had urged the remarkable powers of Mr. Offutt in rendering vicious animals tractable, the Chair appointed Messrs. Browne, of Pa., Earle, of Md., and French, of Mass., on the committee.

Prof. Mapes had exhibited a head of wheat, alleged to be part wheat and part chess, which he stated had been placed in his hands by a farmer in Livingston county, N. Y. [A transaction somewhat similar to this took place at a meeting of the Botanical Society in this county, some years ago, when a gentleman presented for examination a specimen containing "two kinds of grasses growing on the same stalk." The amateur botanists examined it closely, and expressed their admiration at the wonderful freak of nature, to the no small amusement of the wag whose *skillful hands had made the union.*]

A communication was received from Mr. Joel Hitchcock, of N. Y., on the subject of a remedy for the potato rot, which after considerable discussion was referred to the executive committee. A similar communication in reference to the curculio was received from a Mr. Matthews, of Ohio, which was referred to Messrs. Wilder, Brinckle and Brickman.

On motion of Mr. Bradford, of Delaware, a committee of five was appointed to intercede with the government to either purchase one of the Chincha islands, or by negotiation with Peru to terminate the guano monopoly.

Dr. Warder presented some Japan peas. They were introduced into the neighborhood of Cincinnati three years ago. They grow upon a stiff woody stem, the leaves of which are greedily devoured by cattle. The fruit is abundant, and oblong when green, but round when dry. They are not palatable when green, but are liked by most persons when cooked in the dry state. Their great value, however, will be as food for cattle.

On the third day, Prof. Fox, of Michigan, delivered an address relative to the extension of agricultural education. Mr. Taylor offered a resolution asking the general government to purchase Mt. Vernon, with a view of making a portion of it an experimental farm. This after considerable discussion was laid on the table.

The venerable G. W. P. Custis was called on for an address, and responded by contrasting the former and present state of agriculture.

A memorial was received from Ohio, asking for the countenance of the Society to a National Cattle Exhibition to be held in Springfield, Ohio. Referred to the executive committee.

A similar resolution relative to holding the National Exhibition for Sheep in Vermont, at such time as the

Agricultural Society of that State shall appoint, was adopted.

Dr. Eddie, of Mass., in answer to a call, delivered a lecture on bees and bee culture.

The following officers were elected the ensuing year: MARSHALL P. WILDER, of Mass., President.

19 Vice Presidents, (one for each State represented.)

C. B. Calvert, John A. King, A. L. Elwyn, J. D. Weston, B. P. Poore, A. Watts, John Jones, W. S. King; Executive Committee.

W. S. King, of Boston, Corresponding and Recording Secretary.

William Selden, of Washington, Treasurer.

A Productive Hive.

We are in receipt of a box of very fine Honey from the apiary of Dr. George Thomas, at Oakland Farm, in this county. Accompanying the same, the Dr. makes the following remarks respecting the Hive and its product, which will interest those who pay attention to this department of the farm:—

I purchased the Hive of John Hartman, of Lionville, spring of 1850—cost \$12, and put in a swarm during the summer of the same year. In the fall of '51 took 30 lbs of Honey. 1852 being an unfavorable season for Bees—none of mine accumulating more than enough for their winter supply, and several of the smaller hives dying either for want of food or from the attacks of the moth—I consequently got no honey. This last fall, 1853, however, the large hive produced 80 lbs. of superior honey, which brought 28 cts. per lb., at least as much as we wished to dispose of, leaving more than an ample supply to keep the bees through the winter. Indeed, I think we might safely have taken 20 or 30 lbs. more, thus making during three summers, 110 lbs. of honey, or over 33 lbs. per annum, and if all had been sold, the yearly income from that one hive would have been \$9 24.

They have never swarmed, nor have I discovered any appearance of moth or worms. The hive was patented and introduced into this neighborhood by a man from Ohio some 15 years since, and from the success I have had with it, I think it the best I have seen, and the very one for those who like to have good honey, without the trouble attendant on the smaller hives, which require so much constant care and watching, particularly during the swarming season. Several of these hives have been in use in Uwchlan township, but I have not heard the result save in two instances, one of which was very favorable, both from the quantity and quality of honey produced, and its complete exemption from disease, and from the attacks of the Bee moth and other insects. The other was tried for two seasons only, the proprietor thinking they were not doing well, destroyed them. Bees seem to do better some seasons than others, and something may depend on the locality and the care bestowed upon them, the conjunction of which causes may have operated in this case.

Potting Strawberries.

Mr. Rivers, in London, raises strawberries in pots by a peculiar process, thus described:

About the second week in July, he says, he filled a

number of six inch pots with a compost of two-thirds loam, and one-third rotten dung, as follows: three stout pieces of broken pots were placed in the bottom, and a full handful of the compost put in; a stout wooden pestle was then used with all the force of a man's arm to pound it, and then another handful and a pounding, and another, till the pot was brimful, and the compressed mould as hard as a barn floor. The pots were then taken to the strawberry bed, and a runner placed in the centre of each, with a small stone to keep it steady. They were watered in dry weather, and have had no other care or culture. For two or three years I have had the very finest crops, from plants after this method, and those under notice promise well. If the pots are lifted it will be apparent that a large quantity of food is in a small space. I may add that from some recent experiments with compressed earth to potted fruit trees I have a high opinion of its effect, and I fully believe that we have yet much to learn on the subject.

Guano and Superphosphate of Lime---Answers to Correspondents.

In reply to enquiries by several subscribers about the best mode of applying guano, we recommend that it be plowed in as soon as possible after being spread. Its most valuable constituent, the volatile carbonate of ammonia, being dissipated and lost by long exposure to the atmosphere. In cases where it has been profitably applied as a top dressing, it has probably been chiefly owing to particular circumstances, such as a wet spell of weather, or immediately preceding a fall of rain. There is very little danger of covering too deep. We have known it plowed in, and the ground subsoiled at the same time, with very marked benefit.

C. M. A. asks us, "what is the most valuable fertilizer for grass lands in the spring." We reply superphosphate of lime, and of the many articles sold under this name, we can only say *our own* experience, and that of many farmers in this section, is in favor of that made by Prof. Mapes. This has been fully tested on pasture and mowing grounds near West Chester. As to the way of making the superphosphate at home, we refer to an article in our January number by Thomas Sims.

We have written twice to H. A. Welch, Hartford, Ct., about the People's Churn and Butter Worker, but have yet received no answer.

Shanghaihs have fallen a peg or two from their high estate, and can now be had at from \$2 to \$3 per pair. We will procure you a pair at that figure if desired. Whether the great reduction in price, in this vicinity, is partly owing to a daguerreotype of one, *without his feathers*, which a friend of ours near Downingtown talked of having taken, we cannot say. If so, we consider it rather a *foul* business to spread the information of how the carcass looked before the present stock in Chester county is disposed of. We observe our friend Freas, of the Germantown Telegraph, has proposed, under certain contingencies, to eat all the chickens at the New York Poultry Exhibition. At least so says the American Agriculturist. We hope (supposing the aforesaid Shanghai daguerreotype to be correct,) that the Major is fond of the muscular portions of the fowl, and does not care for the white meat. One great merit, at least, in the breed is,

that they are not fond of roaming, or scratching in the garden. For this reason they would suit very well his two acre lot, where the soil is finely pulverised, and every foot of ground turned to good account. We doubt whether there are any two acres in the country more productive than Mr. Freas' two acres in Germantown. When next in that ancient borough, we shall indulge our curiosity by *looking over his board fence*, if he has no objections. A really well managed and productive farm, whether large or small, is to us a great attraction.

Milk for Manufacturers.

We find the following in the London Medical Journal: Milk now possesses other offices besides the production of butter and cheese, and the flavoring of tea. It has made its way into the textile factories, and has become a valuable adjunct in the hands of the calico-printer, and the woolen manufacturer. In the class of pigment-printing work, which, indeed, is a species of painting, the colors are laid on the face of the goods in an insoluble condition, so as to present a full, brilliant face. As a vehicle for effecting this process of decoration, the insoluble albumen obtained from eggs was always used until Mr. Pattison, of Glasgow, found a more economical substitute in milk. For this purpose buttermilk is now bought up in large quantities from the farmers, and the required insoluble matter is obtained from it at a price far below that of the egg-albumen. This matter the patentee called "Icabrine." A second application of the same article—milk—has just been developed, by causes arising out of the recent high price of olive oil. The woolen manufacturers are now using the high priced article mixed with milk. This mixture is said to answer much better than oil alone, the animal fat contained in the globules of the milk apparently furnishing an element of more powerful effect upon the woolen fibres than the pure vegetable oil alone.

National Poultry Show.

We clip the following account of the National Poultry Show from the Plough, Loom and Anvil:—The largest collection of the feathered tribe ever collected in this or any other city in this country, has been on exhibition at Barnum's Museum, during the past month. The number on exhibition is said to be about 4000, and embraces the common domestic fowl, geese, turkeys, ducks, pigeons, prairie-hens, pheasants, pea-hens, quails, guinea-hens, eagles, swans, &c., each species and variety being represented by both males and females. Besides these, are deer, terrier-dogs, gazelles, rabbits, pigs, &c. &c. They occupy all the room to be spared for them in the three stories of those large halls. The number of exhibitors exceeds a hundred. The most extensive of these are Mr. McCormick, of Long Island, (?) and Mr. Platt, of Rhinebeck, N. Y. The States of New York, Massachusetts, New Hampshire, Rhode Island and New Jersey, are represented in the coops, by natives of almost all the countries of the globe.

We cannot enumerate the various birds by their names, but were very glad to hear Mr. McCormick in his remarks on the 17th, recommend that all the fowls from Eastern Asia be called by one name, Shanghaihs, and the varieties be known by their color only, as white Shanghaihs, speckled Shanghaihs, &c., and to find that this plan

was adopted by a resolution of the Society here and at Albany. We could never distinguish between several of the "varieties" by their appearance, and perhaps it was not from ignorance, but because they were all alike.

The addresses, on the 17th, were by several gentlemen, but we were disappointed in the amount of well-ascertained facts that were presented. We call to mind but two items of practical importance, and these were—1st, that pullets seldom commence laying eggs till they are six months old; and 2d, that the best fowl for general use is the cross of the Shanghai and Dorking. These statements may be reliable, or they may not. We should be sorry to eject the beautiful "black Spanish" from our yards, and still hope good reason may be assigned for retaining them. The most *beautiful* birds, of *these* varieties, in this exhibition, were the Mexican game-cock, and the handsomest of the feathered race, the "golden pheasant." Then came the "silver pheasant," peacock, some varieties of pigeons, &c. &c.

The only pigs exhibited were a *beautiful* pair of Suffolk, ticketed \$150.

Farms Improved by Keeping Sheep.

Citizens of Wool growing districts, as parts of Washington and Fayette counties, are familiar with the rapid improvement of "Sheep farms," by sheep grazing alone. It is the belief of many whose opinions have been formed by observation and experience, that, by placing as large a flock of sheep on a poor farm as the land will sustain, and in five years, without any other means, it will be comparatively rich. Were this fact more generally known, it might change the husbandry of considerable portions of this state, the lands of which are better adapted to wool growing, than grain growing, to say nothing of remoteness from produce markets. The following quotations from the Transactions of the Norfolk Agricultural Society, which we find in the Wool Grower, are worthy of consideration:

"A man having a small farm, formerly kept forty sheep, four cows and one horse, and had food enough for them the year round. The price of wool falling, he sold his sheep, and for a number of years has kept other stock altogether. He now keeps but three cows and one horse the year round, and pastures two cows extra through the summer, sells very little hay—not half enough to keep another cow; he has the same amount of pasture and mowing land as when he kept the forty sheep in addition to his other stock, and yet his farm does not look near as well as then. He used to raise turnips among the corn for his sheep to eat in winter, and gave them besides, a few bushels of grain. The lambs, however, more than paid for his extra feed.

"Another farmer for a great number of years kept about sixty sheep, eight or nine cows, (or other stock equal,) one pair of oxen and one horse. After keeping the sheep for a number of years, he found he could then keep as large a stock on his farm with the sixty sheep, as he could keep without them before; showing that they had improved the farm to furnish their own support. To stock a farm entirely with sheep would not be so profitable as to keep a limited number—yet it would pay as well as other stock. The object is to keep enough to consume that part of the vegetation peculiarly fitted to sheep; and which other stock will not eat, adding at

the same time enriching elements to the pastures and yards by their manure. It is the opinion of many farmers, that pastures for other stock may be improved by keeping a small flock of sheep upon them a portion of the time, and the opinion seems fairly supported both by reason and experiment."

Domestic Recipes.

POTATOE PIE.—Boil until soft as many potatoes as you like; then peel and mash through a tin sieve. To a quart of potatoes add one quart of milk, three spoonfuls of melted butter, four beaten eggs, and sugar and nutmeg to the taste. Bake in tins as you would custard or pumpkin.—*Rural New Yorker.*

EGG DUMPLINGS.—Make a batter of a pint of milk, two well beaten eggs, a teaspoonful of salt, and flour enough to make a batter as thick as for pound cake; have a clean sauce pan of boiling water, let the water boil fast, drop in the batter by the table spoonful; four or five minutes will boil them; take them with a skimmer on to a dish, put a bit of butter and pepper over, serve with meat.

BAKED APPLES.—The person who has eaten baked sweet apples with milk needs no commendation of the article. But those who have tart apples only, may secure a delicious dish by the following process: Pare them, if thick skinned, cut out the largest portion of the core from one end, and place the fruit on well glazed earthen dishes or pans, with the cored end upwards, and the cavity filled with refined powdered sugar. Then bake them.

NOURISHMENT OF MEAT.—To preserve, in dressing, the full nourishment of meats, and their properties of digestiveness, forms a most important point of the art of cooking; for these ends, the object to be kept in mind is, to retain as much as possible, the juices of the meat, whether roast or boiled. This, in case of boiling meat, is best done by placing it at once, in briskly boiling water. The albumen on the surface, and to some depth is immediately coagulated, and thus forms a kind of covering, which neither allows the water to get into the meat, nor the meat juice to get into the water. The water should then be kept just under boiling until the meat be thoroughly done, which will be when every part has been heated to about 165 degrees, the temperature at which the blood coagulates or fixes. At 132 degrees the albumen sets, but the blood does not, therefore the meat is red and raw. The same rules apply to roasting; the meat should first brought near enough to a bright fire to brown the outside, and then should be allowed to roast slowly.—*Ex.*

FRIED OYSTERS.—Select the largest oysters for frying. Take them out of their liquor with a fork, and endeavor, in doing so, to rinse off all the particles of shell which may adhere to them. Dry them between two napkins; have ready some grated cracker, seasoned with Cayenne pepper and salt. Beat the yolks only of some eggs, and to each egg add half a tablespoonful of thick cream. Dip the oysters one at a time first in the egg, then in the cracker crumbs, and fry them in plenty of butter, or butter and lard mixed, till they are of a light brown on both sides. Serve them hot.—*Ex.*

TO COOK PARSNIPS.—Persons who have never eaten parsnips cooked according to the following mode, have no idea what an excellent dish they are. Scrape the parsnip, wash and slice them lengthwise; boil them in just water enough to cover them when done. Then put in a piece of butter, salt and pepper. Beat an egg with a spoonful of flower and pour over them—they are then ready to dish up. Parsnips are likewise very good split once and roasted with pork in the dripping pan.

TO MAKE CRACKERS.—One quart of flour with two ounces of butter rubbed in; one tea-spoonful of saleratus in a wine

glass of warm water; half a tea-spoonful of salt, and milk enough to rub it out. Beat it half an hour with a pestle, cut it into thin round cakes, prick them, and set them in the oven when other things are taken out. Let them bake till crisp.

PRESERVING HERBS.—There are few persons who would not be occasionally benefitted by a cup of good herb tea. I do not mean such as is made from herbs dried in the sun, and boiled for half an hour in an old tin cup. Such a mess as that would make even a well person sick, who had ever known a better plan.

By attending to the following directions, all country people can have good herbs; and if they wish to give a city friend some acceptable trifle in return for their dinner when they go into the city shopping, let them roll up and carry a good bundle of various kinds of herbs, for in the city even a very small package costs sixpence, and a large proportion of stems at that.

All kinds of herbs should be picked as soon as they begin to blossom, the dust rinsed off, the leaves and flowers stripped from the stems and spread on tins or clear paper and exposed to moderate artificial heat till perfectly dry and crisp, then put away in a clean dry place. When required, make the tea just as you would green tea for the table. Herbs are better dried in the shade than in the sun, but a moderate heat from the stove or oven is still better.

Early Rising Required by Will.

The will of James Sargeant, late of Leicester, England, contains the following clause:

"As my nephews are fond of indulging themselves in bed in the morning, and as I wish them to prove to the satisfaction of my executors that they have got out of their bed in the morning, and either employed themselves in business, or taken exercise in the open air from five to eight o'clock every morning from the 5th of April, to the 10th of October, being three hours each day, and from seven to nine o'clock in the morning from the 10th of October to the 5th of April, being two hours every morning, this to be done for some years, to the satisfaction of my executors, who may excuse them in case of illness, but the task must be made up when they are well; and if they will not do this, they shall not receive any of my property. Temperance makes the faculties clear and exercise makes them vigorous. It is temperance and exercise united that can alone insure the fittest state for mental and bodily exertion."

The above may seem an eccentric provision, but it would add to the health, happiness and comfort of large numbers of the heirs of wealth, were they compelled to form the habits of early rising in youth.

Ornamental Trees and Shrubbery.

The period for planting having arrived, we have a word to say in favor of two or three trees, deserving of being more generally planted. Of evergreens, no land of course is considered complete without some specimens of Norway and silver fir, white fir, balsam fir, arbor vitae, junipers, hemlocks, and other well known varieties.

Deodar cedar and Cryptomeria Japonica, two beautiful evergreens, whose hardiness and rapid growth have both been fully tested, are comparatively seldom seen. One of our friends had a plant of the latter which grew four feet the past season, and has stood the winter unharmed. Its habit is rather pendant, and the foliage extremely delicate and graceful, and it is a very valuable addition to our list of ornamental trees. One drawback, however, is its not holding its green color entirely through the winter, taking rather a brown tinge.

This is not the case with the deodar, which, with a peculiar style of beauty, has *all* the attributes of a desirable tree to recommend it, a lively color, perfect hardiness, rapid growth, and, so far as we know, adaptation to any soil. In England it is being planted out very extensively for timber. The wood is very durable, and on being washed emits a very sweet and delightful odor. Its growth is often nearly equal to the Larch. We think it not excelled by any other tree.

Bommer Method of Making Manure.

MESSERS. EDITORS:—I saw in a late number of the Cultivator, some inquiries as to Bommer's method of making manure, and your answer, giving details, &c. I thought perhaps the experience of Maryland might be of some use on the subject. The process, when first introduced here, created quite a sensation. One gentleman in the city of Baltimore purchased the right to manufacture, and thought he had found an easy solution of all the difficulties of agriculture. So sanguine was he of the result, that he left his business in the city, and bought a farm in the country, which very much needed manure. He told his neighbors he intended to make it rich, as he could make as much manure as he wanted out of briars, brush, &c. He put up one pile, but never tried another; and I may add I never knew a man who put a second, for it was soon found that the value of manure depended upon the strength of the ingredients, and where brush and briar bushes were used, the manure was of little use after it had been prepared. Mr. Bommer is by no means as smart as Paddy from Cork's blacksmith, who could make glass out of stone and stone out of nothing at all. The best way of manufacturing Bommer manure is to put the cornstalks, straw, &c., on a well constructed cattle-yard, for then whatever strength there is in the material is secured, and by absorbing the liquid, &c., they help to save more valuable substances. I suppose the farmers of Maryland paid from five to ten thousand dollars for the secret without ever receiving \$100 in return. From 100 to 200 tons of guano might have been purchased with the money, one ton of which would have been worth all the Bommer manure ever manufactured in Maryland. I do not believe that one man in the state uses the method now.—C. V. Pikeville, Md.

We copy the above from the Country Gentleman, with the remark that the agent for the sale of Bommer's patent for manure passed through Chester county, Pa., and succeeded in collecting considerable money from our farmers, who have never yet received, so far as we know, any benefit from it whatever. The agent was a genuine Yankee, we should judge from the *farthest point* east, and did his business well, often introducing it with an affectionate preliminary enquiry after the wife and family.

An Explanation.

We are daily receiving inquiries as to "why are such and such persons' Journals not forwarded?" It would save us a vast amount of letter writing if our friends would remember that, on the first day of last January, we changed our terms from the *credit* to the *cash* system, and had a notice of this change folded in every copy of the January number of the Journal sent out. Since then we have mailed the Journal to none who have not paid in advance.

While there are thousands of names upon our books for the last volume, whose word we know to be as good as gold, there are others, which experience has taught us, are not so. As we could not hope to make a correct distinction in so large a list, we were compelled either to continue as hereto-

fore, or to adopt the cash system without reserve. We chose the latter, and in order that all might be made aware of the proposed change, we sent the notice above alluded to. In looking over our mail books, we find the names of hundreds who have not received the February and March numbers, who, we are persuaded, desire to continue their subscriptions, and are probably wondering why their accustomed monthly visitor has been withheld. To these we would gladly send the Journal, but our friends will perceive that by so doing we would be giving just grounds of offence to many others. We cannot properly, to use a homely phrase, make fish of one and flesh of another.

Corrected Lists.

We have used every exertion during the last two months to have our lists perfectly correct, but we found several errors and omissions when recently comparing our letters with our new mail books. Should any errors still exist we shall be thankful to postmasters and others to inform us of them. When it is remembered that our entries have been made from some four thousand letters, many of them almost illegible, and the post office address often entirely so, the difficulty in obtaining correct lists for a new volume may easily be imagined.

Asparagus Seed a Substitute for Coffee.

We have observed the following recommendation of "a gardener"—name not given—in several of our exchanges. It may be like other substitutes, but we should be glad to hear of its trial by some of the fair readers of the Journal. We have great faith in their skill and judgment.

"Asparagus seeds," he remarks, "contain, according to Liebig, in common with tea and coffee, a principal which he calls 'taurin,' and which he considers essential to the health of all who do not take exercise; this led me to think that asparagus might be made a good substitute for coffee. The young shoots which I first prepared were not agreeable, having an alkaline flavor. I then tried the ripe seed; these, roasted and ground, make a full flavored coffee, not easily distinguishable from fine Mocha. The seeds are easily freed from the berries by drying them in a cool oven, and then rubbing them on a sieve."

Nitrate of Soda.

We see it stated in the transactions of the Royal Agricultural Society of England, that a Mr. Stevenson, of Edinburgh, has made an experiment on his wheat crops of one cwt. of nitrate of soda and two cwt. of salt per acre, which resulted in an increase of nine bushels of wheat per acre.

Missing Numbers.

We have received information of a number of packages having miscarried during the last two months, and in every case made known to us have forwarded others. As there may be others of which we have not heard, we will most cheerfully forward duplicate copies upon application.

Agricultural College.

The Carlisle "Volunteer" says:—We notice among the bequests of the late Elliott Cresson, Esq., one of five thousand dollars to the fund for the establishment of an Agricultural College by the Pennsylvania State Agricultural Society. We are pleased to see capitalists and men of position turn their attention to this subject. It is one of great importance to the community. Educated farmers, who are acquainted with the theory as well as practice of germination and maturing, are imperatively demanded, if we expect an advancement in agriculture proportionate to that of the oth-

er sciences. In the present state of the science its votaries know, that if they sow the seed at a certain time a certain result will be produced, but of the reason and the process they are entirely ignorant, and any effort to advance the interests of our farmers will meet with the hearty approbation of all classes.

A New Manure.

We are informed that Robert Bryson, Esq., of Cumberland county, about eight miles from Harrisburg, Pa., has been experimenting for the last ten years, to make exhausted tan bark available and valuable as manure. Besides his magnificent farm, he likewise carries on the tanning business. Finally, after a great deal of expense, and failures, he has succeeded in discovering a method of producing from tan an efficient manure. This is his plan: He has his tan wheeled out on a level piece of ground, and leveled off two or three feet thick. Over this he spreads a layer of two or three inches of lime, and over that again a strata of tan—then a layer of lime, and so on. He lets the bed so prepared remain for two years; at the end of that time he finds a bed of manure, the effects of which upon the land can hardly be surpassed by the richness of its product, and the durable fertility which it imparts.

Spring Wheat.

Reuben N. Woods writes to the Ohio Farmer as follows:—A neighbor of mine, (Mr. H. Baker,) formerly of this place, but now residing in Rockford, Winnebago Co., Ill., has just left here for that country, and agrees to furnish all the Wheat that is wished for Seed. He says they have a beautiful kind of Wheat, called the White Club which looks as white as any of our white varieties of Winter Wheat, and often yields forty-five bushels to the acre on those rich prairies. The said Wheat is selling from ninety cents to one dollar per bushel there, and the freight will be fifty cents per 100 lbs. to Cleveland, from whence it can be forwarded in sacks.

"Mr. Baker is quite anxious that this kind of Wheat should be introduced into this State, as he believes there are many locations on which it will do better than Winter Wheat. Mr. Baker is an upright, responsible man, and I have no hesitation in saying that any business entrusted to his care will be promptly and satisfactorily attended to."

Officers of the Chester County Horticultural Society.

The annual election of the officers was held on Saturday the eleventh of March, when the following officers were elected:—

PRESIDENT: John Rutter.

VICE PRESIDENTS: Jas. H. Bull, and Dr. Geo. Thomas.

RECORDING SECRETARY: Josiah Hoopes.

CORRESPONDING SECRETARY: Jos. P. Wilson.

TREASURER: John Marshall.

For the Farm Journal.

Erie County Agricultural Society.

MR. EDITOR:—The annual meeting of our society was held in this city on the 15th ult, with a good attendance of members from various parts of the county. After the appointment of the necessary committees for the ensuing year. The committees on winter premium having performed their duties, made the following reports:

To A. Stone, for the best crop of wheat, three dollars. The yield being forty bushels by weight to the acre as testified by A. Stone, Bresley G. Stone and Horace F. Thompson. The previous crop was clover and plowed but once the same season. The land a sandy loam and gravel.

To Gen. John Killpatrick, for the best acre corn, three

dollars. The yield being on one acre and eighteen rods of ground, eighty-eight and a half bushels by measure, and ninety by weight.

The cost of cultivation of same as per items furnished,	\$15 50
1 1-7 acres of land at \$125 per acre, \$142 80.	
Interest on same one year.	8 50
Tax on same,	50

\$24 56

Product of 90 bushels of corn at 65 cents per bushel,	\$58 50
Corn fodder,	10 00
Value of product	\$68 50

Net profit from same, \$43 94

The ground was an old meadow, which had never been plowed. Soil, black muck, rather wet. It was plowed the 20th and 21st days of May, 1853, with a double team, eight inches deep, and was harrowed four times the 25th of May, and was furrowed and planted three and a half feet each way, on the 26th same month. It was worked with a cultivator twice, and with a shovel plow three times, twice in a row each time. It was hoed twice. The corn was up in six days after planting, and plastered soon after coming up. There was no manure used. The corn was cut up by the roots the 24th of September, 1853, and threshed the 15th of February, 1854.

To Robert Evans for the best acre of Barley, two dollars. The yield being 52 bushels and 30½ pounds. The previous crop was corn, and plowed in the fall. Sowed two bushels to the acre the 30th of March and harrowed and rolled. The seed was the six rowed barley. It was harvested the 12th of July, and threshed the 8th of February, 1854. The soil was a black walnut bottom.

To James Sampson, for the best field of barley, not less than three acres, three dollars.

To Seth Pettit, for the best quarter acre of carrots, three dollars. The yield on the fourth acre being 270 bushels. Carrots were raised on the same ground two years before this crop. About fifteen or eighteen loads of manure were spread on the land, and plowing was eighteen inches or more deep. The land was a chestnut ridge of a loamy kind, and the sowing was about the middle of May, in rows fourteen inches apart.

Cost of tillage is estimated at,	\$19 05
Value of carrots, 270 bushels, at two shillings per bushel,	67 50

Profits, \$48 45

To Robert Evans for best bushel of clover seed, one dollar.

The members of the Agricultural Society, who were in attendance, agreeably to the requirements of the constitution and public notice given, proceeded to the election of officers for the ensuing year; and the following persons were duly elected, viz:

President.—STEPHEN C. LEE.

Vice President.—PHILIP OSBORNE and GEN. JOHN KILLPATRICK.

Recording Secretary.—JAMES D. DUNLAP.

Corresponding Secretary.—WM. A. BROWN

Treasurer.—JUDAH C. SPENCER.

Executive Committee.—Elihu Marvin, Capt. John McLane, Robert Evans, Conrad Brown, Jr., Moses C. Giddings, Henry Shattuck, W. W. Eaton, Francis D. Strong, Presley McCreary, John M. Conrad, Robert Dunn, John Evans, Jr., Robert G. Dunn, W. H. Townsend, Alexander Taggart, R.

R. Robinson, Gideon H. Wagner, Isaac Easton, Wm. Cross, Wm. Graham, Calvin Leet, James S. Rooney, P. F. I. Brown, Wm. C. Weed, William Parker, Robert Sewell, Jehial Towner, John Parmeter, Peter E. Burton, John Burton, Henry Gingrich, John Seonller, L. I. Baldwin, Samuel C. Stevens, James Sampson, Joseph Arbuckle, James Winchester, Joseph McCord, Dr. S. Dickenson, Jacob Fritz, William Sullivan, Frederick Wittich, W. J. F. Liddle, Matthew R. Barr, B. B. Vincent and Hugh Jones.

I was much pleased to hear from members of the society, from various sections of our county, that your valuable Journal is gradually winning its way to popular favor in this remote district. The field here has been so long occupied by the New York papers, that it is difficult for a *new comer* to get foot-hold among us. Nevertheless, it is so manifestly to the advantage, to say nothing of the *duty* of every Pennsylvania farmer, to support *first* his own State paper, and then take such other publications as he may see proper, that I hope the day is not very far distant, when every farmer in our staunch old Commonwealth, will as soon think of being without a Bible in his house, as to be without the Farm Journal.

At any rate, I trust that every member of the Erie County Agricultural Society, will feel it a duty not only to order your Journal for himself, but will call on his neighbor and get his subscription also. With my best wishes for the continued prosperity of your excellent work. I remain

Yours truly, R. S. T.

For the Farm Journal
Transmutation of Plants.

In the *Farm Journal* for November, 1852, we noticed a statement in *Hovey's Magazine*, that a Mons. FABRE had demonstrated, in France, the curious fact, that by *seven successive crops* a certain wild grass, called *Aegilops*, had been changed into *genuine wheat*.

As Mr. HOVEY seemed to be a convert to the belief in such transmutation, we expressed the hope that he would take measures to procure *specimens* from Mons. FABRE of that remarkable grass, showing its progress each successive year, from its original wild state to perfect wheat. We have waited anxiously for the *demonstration* of that interesting change; and hoped to hear, long ere this, of the arrival of the evidences: but although the ships are urged by steam, and Mr. *Hovey's Magazine* appears monthly, we do not learn that he has yet obtained the specimens required to establish the important fact. If Mr. *Hovey* would at once take the effective measures to procure a number of good specimens in the various stages of *progress*, the naturalists of this country would undoubtedly be grateful for the favor; and surely specimens may be obtained of a plant which has been so long under cultivation. As objects of natural history are admitted *free of duty*, there would probably be little other expense beside the *freight*, and that we will cheerfully pay, if Mr. *Hovey* will only have the goodness to obtain *authentic specimens* for us,—one or more, if possible, of *each* of the successive *seven crops*; but, at all events, good samples of the entire plants in their state of *perfect transmutation*. Relying upon his public spirit, and love of scientific truth, we shall hopefully await the result of his efforts to establish the verity of the annunciation formerly made.

Speaking of *transmutation* we would add in this connection, that we have seen an account of Prof. MAPES having recently produced to the National Agricultural

Society a specimen of grass, the spike of which was in a transition state—half wheat and half cheat, or *Bromus*. This would be very interesting to examine, and if the Professor has any "more of the same sort," we respectfully suggest that he would do a favor to science, by placing a fair sample with a curator of the *Herbarium*, at the Philadelphia Academy, or in some convenient position, where amateurs might have a chance to look at it.

D.

West Chester, March, 1854.

For the Farm Journal.

Fruit Trees and Brimstone—Experience vs. Theory.

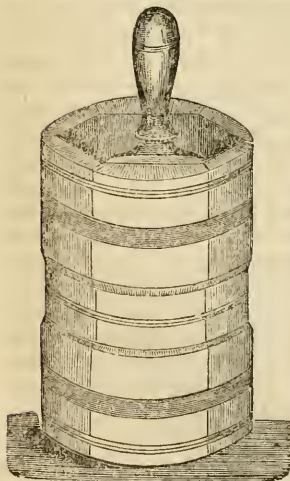
There is an opinion abroad, that sulphur introduced into the body of a fruit tree, particularly into the plum tree, the sap will take up a sufficient quantity of the sulphur to nauseate the fly or worm so as to prevent its doing injury to the fruit: the only objection to the use of the sulphur being that it would and did effect the flavor of the fruit during the whole time it was being absorbed. Willing to try anything by which there was a chance of keeping my plums on the trees to ripen, over twelve years ago I procured roll brimstone, selecting such as were perfectly smooth and round, bored a hole in the body of the trees through the heart of the exact size of the roll of brimstone, which being introduced, a short tight filling white pine plug closed the hole, which years since was covered by the bark.

Now for the result: we thought that the tree was benefited, the leaves looked fresher, the fruit held on better, was certainly better. But there could be detected a sulphur flavor, which in time would diminish as the brimstone was diffused; in short brimstone was the panacea for plums.

One of these trees having died this winter, it was cut down this day, and most carefully opened where the brimstone was introduced. When, lo! there was the whole roll, perfect as put in, not even the slight marks made in moulding in the least defaced; in short nothing, not even gold itself, could have come out from a twelve years incarceration less changed. So my experience explodes one humbug.

L.

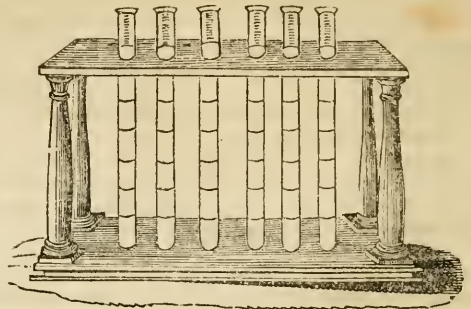
Wilmington, March 13th, 1854.



BUTTER MOULDS.

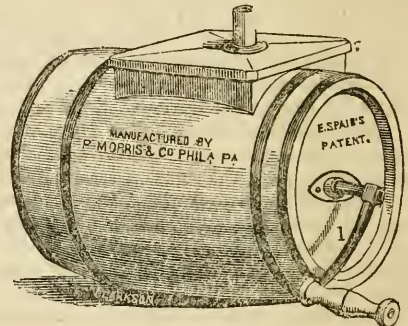
This cut represents a very neat implement for moulding butter, in pound or two pound lumps, either for table or market.

LACTOMETER.



This is the only instrument in use for properly testing the quality of milk drawn from various cows. The tubes are of glass, and are fixed in a wooden frame. The tubes being divided and subdivided by marks into equal spaces, are filled to equal heights, each with the milk of a particular cow. When the cream rises, the exact difference in the quantity is readily determined.

SPAIN'S PATENT ATMOSPHERIC BARREL CHURN.



This churn will make more butter, of a better quality, from a given quantity of cream, than any other now in use.

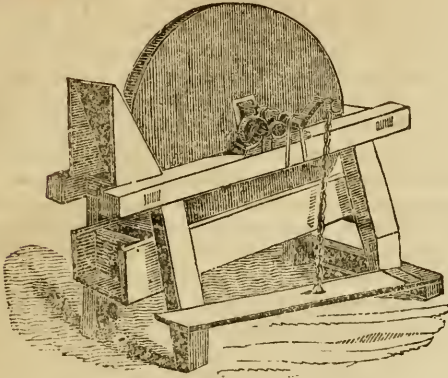
It is constructed in such a manner that the whole reel or dashers can be removed (whole) from the inside of the churn, by simply unscrewing the handle from the dasher, and raising the handle end of the dasher to the square of the hole. The peculiar construction of the dasher agitates the cream in the centre as well as the sides, giving it a rotary motion, and preventing the cream from revolving with the dasher after it becomes thick. They also gather the butter quicker and better. They have tubes in the lid for the purpose of letting the gas escape as fast as it rises, and also admit the fresh air to pass freely through the churn while in operation. After churning, the dashers can be removed for a perfect cleaning. The churn is then clear of all impediments in the way of removing the butter.

These churns have taken two premiums at the Franklin Institute, and are regarded as the best in the country by many experienced dairymen. We are requested to add that P. Morris & Co., northeast corner of Seventh and Market streets, to whom we are indebted for the cut, are the sole manufacturers and agents in Philadelphia.

IMPROVED GRINDSTONE HANGINGS.

The following represents a grindstone to which improved hangings are attached. It is turned by a crank on one side and by a treadle on the other. By means of the treadle one person is enabled to turn and grind at the same time. The fixtures are finished in the most admirable manner, and are

not only labor-saving, but decidedly better than the old style of fixtures.



For the Farm Journal.

Guenon's System and James Gowen.

MR. EDITOR:—It seems equivocal that your correspondent, who styles himself "Science," should defer to me, a plain farmer, while he keeps so closely to his erudite character. His familiarity with Lord Bacon, Doctors Parr and Franklin, and the Grecian Philosophy, with his reliance upon the philosophers of the present day, Isaac Newtown, of Chesnut street, Philadelphia, Marshall P. Wilder, of Boston, and "the distinguished Professor" John Wilkinson, now of Great Barrington, Massachusetts, make it sound strangely that he should yield to me in the accomplishment of writing or speaking. But he is, in common parlance, I suppose, only "poking fun at me;" be this as it may, when I see such an array of dead and breathing philosophers strung to a cow's tail, I cannot but exclaim with Hamlet: "To what base uses may we come at last!" That I should, as "Science" says, oppose my "ipse dixit" to the aforesaid homogeneous galaxy is no doubt very presumptuous, but he little knows how many competent judges of cattle now living, I could name, who would be ready to sustain me in the position that Guenon's system is "sheer nonsense," besides referring to a proof that is more than negative in this, that the best and greatest breeders, improvers and delineators of fine stock should, while developing points and defining standards, never have noticed or discovered the escutcheons and mirrors, so potent and wondrous in reflecting the true properties of the cow; such men as Bakewell, Meynard, Collings, Culley, Bates, Whitaker, Youatt, &c., &c., who, from the care, pains and skill bestowed by them upon this branch of husbandry, reduced it to a science, and to whom we are indebted in the largest sense for their intelligent labors and commendable examples. Had any such tests as are claimed for the mirrors existed, they could not, in the nature of things, have possibly escaped the observations of these keen, practical and discerning men, especially the penetrating and indefatigable Robert Bakewell.

The mischief in adopting the mirrors and escutcheons as standard tests would be immense, because there is nothing definite or tangible in them; they would set breeding to points, blood and properties at defiance; this man would lose the sale of a good animal, because some Guenonite might happen to conjure up for her what he

might conceive he saw in her escutcheon an *imperfect mirror*; the other man would lose the chance of having a good cow from the same cause, and so on. No two disciples of this school, if tried apart upon an animal perfectly unknown to them, will agree as to its mirror; when found at fault in pronouncing a perfect mirror to a bad milker, then comes the tug at amending the decision by pointing to some hairs, indefinite and obscure to every one but the conjurer himself, who will explain how these hairs broke the line that misled him. The system is so absurd and ridiculous, that it is really a misnomer to call it a system. It is so vague and intangible as gives rise to as many illusions, as hinted in my former communication, as the imagination may create, affording a range of opinion in determining the object, as wide, as from that of "a weasel to a whale;" it is, therefore, as easy for "Science" or any of the enlightened, on finding a cow that makes from 16 to 18 lbs. of butter in a week, (facts that should be taken not only with many grains of allowance but ounces and pounds) to apply to such cows first class mirrors, and just as easy to designate others, which they know don't give 6 lbs., having similar marks, as faulty in their mirrors.

If what "Science" calls "*facts and undisputed history*," are, that learned Societies in France subjected Guenon's system to the severest tests," he should have designated those societies, and given the places where those savans experimented; even had he done this, still it would not be conclusive. France is a broad field, and it must be admitted that many a fantasy and vagary have been enacted there; nor can any one doubt but she can boast of philosophers and professors of every type and emblem. We can ourselves reckon not a few self styled savans and professors, who can do up a thing or two of as much value to themselves and the community as the endorsement of Guenon's theory, of which Nefflin's pamphlet is a fact indisputable.

I pass by the personalities of "Science," as to my crops on paper, &c., with this remark that, if he be a farmer, let him visit me and look at my cattle, and into my management, and then judge for himself; but I cannot overlook so easily his gratuitous remark of vulgarity applied to the response I made to him. The truth is, the only thing *vulgar* in it was the quotations I made from his refined and orthodox pamphlet, describing the seat of a first class, "lyre shaped mirror;" and considering the subject, ground work or text, no one, I think, could have handled it more dextrously to avoid defilement than I did. Let any prudent, disinterested individual take up the pamphlet and pictures, and then glance at my article, and say whether I did not treat the matter with great caution and delicacy? The whole system in fact, in all its parts and tendencies, is as vulgar as it is stupid and unmeaning.

"Science" seems to console himself by answering my question or remark, that it was incumbent on Guenon to show that there existed some affinity between the curves and lines of hairs and the lactescent property of the cow, by another question to me, as to the connection there is in this respect with the muzzle, eye, neck, flank, &c., and in asking this without answering mine, he exposes the air blown foundation upon which Guenon's system rests, as effectually as if he had answered, that these

lines of hair have no influence, or were not influenced by the milking property of the cow. Now without presuming to be versed in physiology, I shall give a common sense answer to his question, which I have no doubt will be satisfactory to every experienced breeder: that there is tangible and physical affinity between those parts or points to which a good judge can address himself with entire confidence, in order to determine the character of the animal. As thus, constitution and good health are the basis of good milking, as well as of easy feeding, in selecting for the latter we look for its evidence mainly in the shoulder, chest and conformation of the ribs. I need not say why. In choosing for milking, the muzzle will as invariably indicate the health of the cow as to feverish excitement and deranged secretions, as nearly as the pulse can indicate these conditions; this is not all, the muzzle, with every part of a perfect cow, and consequently a good milker, should in the extreme be *feminine*; hence the muzzle, cheek, horn, throat, neck, breast, crops, rump, buttock and tail, should differ as widely from the bull or male as possible. A bull-headed, throaty, &c., cow will always be a bad milker, not only so, but she will be prone to breed bull calves. Now is "Science" answered, and can he say that such bull-necked, throaty cows will not be likely to have such escutcheons as the most perfectly formed cows. No one dare answer that, if an escutcheon was definite, or tangible to handle, feel or measure. I need not enlarge further upon this point, for the most simple, if unprejudiced, will perceive the reason why those points or parts are referred to as indicators of the qualities of cattle.

I was about to close here, when I observed in another part of the Journal, that Marshall P. Wilder, President of the United States Agricultural Society, with Chauncey P. Holcomb, Esq., of Delaware, have been formally arrayed against me; this, however, gives me as little or less concern than that you have been authorised to resolve "Science" into Mr. Eusebius Townsend, of West Chester. I could call to my support very many reliable names to sustain my position, but it would savor too much of management, to my taste, to be drumming up an array to give effect, or make an impression upon your readers. I choose rather to go before them upon the simple merits of the case. If my position be sound, it cannot be affected by all the puffs and breezes that can be directed against it. I feel a confidence that the unusual efforts made to impair it, will only give to my views more force, and secure for them a more general acceptance.

There is, however, a matter connected with this late denouement that becomes me to advert to, and that is the action of the "Philadelphia Society for Promoting Agriculture," through a committee in this connection. I stated in a former communication my opposition to the society having anything to do with the matter, and with the desire to absolve the society, in the main, from the perilous position the committee had placed it, I most ingenuously stated the manner in which the committee had been appointed, and the direction given to the report published in the pamphlet, from which nothing could be inferred but an irregularity or precipitancy that sometimes will happen in the best regulated associations; this irregularity is manifest even as to the names on the

report as published. The names of the committee on the *minutes* are A. L. Elwyn, Samuel C. Ford, Isaac W. Roberts, Samuel Cooper, Casper W. Sharpless, Samuel Williams, Dr. James A. McCrea and Isaac Newtown, eight in all; four only of these, not a majority, appear to have acted; those who did not act, or who have not signed the report, are Isaac W. Roberts, Samuel Cooper, Casper W. Sharpless and Dr. James A. McCrea. There are six names appended to the report, two of them, as may be seen by the names composing the committee proper as above, are *informal*, one of whom is John Wilkinson. So much for the action of the Philadelphia Agricultural Society, so much relied upon by "Science,"—Mr. Eusebius Townsend. I reiterate, that I objected to any committee, refused to appoint a committee on such a business, and stated that any or all of the members might go on their own account if they pleased; and that I never saw the report or heard it read, until I saw it published in the pamphlet, for had it been read before me it could not have passed. With this I take my leave, making my best bow to the distinguished gentleman engaged on the side of the tail—In tail vs. head, neck, &c., &c.

Mount Airy, March, 1854.

Respectfully,
JAMES GOWEN.

For the Farm Journal.
JERSEY HOGS.

MR. EDITOR:—As a strong prejudice exists in the minds of many persons against the State of New Jersey, I thought it might alter the opinion of some such persons by stating to them, through your Journal, the kind of hogs we raise in Gloucester county. One of my neighbors, Mr. John W. Hazelton, killed a lot of hogs two weeks ago, twenty-one in number, and weighing as follows: 550, 545, 600, 476, 526, 512, 540, 495, 430, 584, 494, 531, 485, 472, 577, 571, 489, 429, 455, 563, 581 pounds, average weight 518 lbs. These hogs were but twenty-one months old. Let those try who can beat this. But until they do they may do well to cease sneering at New Jersey.

Hazledell Farm, Feb. 22d, 1854.

For the Farm Journal.
FARMING IN DELAWARE.

MR. EDITOR:—Upon a perusal of the February number of your valuable Journal, I observed a statement of the crop of wheat raised the past year upon two fields of my "Mansion" or "Font Hill Farm," and you desired to hear from me the process by which the said fields were brought up to their present state of productiveness.

In answering this as well as many other inquiries addressed to me upon the subject, I propose doing so through your Journal, which I hope will be satisfactory to all. The subject of Agriculture is one upon which I delight to converse, and the pursuit enlists my greatest pleasure; but when called upon for my experience and practice to be placed upon paper I fear it may be wanting of interest.

In order fully to give you my course of improvement it becomes necessary for me to enter into a more elaborate statement than I should desire, and I fear it will be considered a more expensive one than will be sanctioned by your many Agricultural readers.

The two fields referred to and upon which you desired my process of improvement I will first confine myself to.

During the spring of 1847, one year previous to my getting possession of the farm, these fields were plowed for Oats, and

an application of 50 bushels of slacked lime per acre, was made, and Cloverseed sown upon the Oats, only a small portion of the Clover seed took root, consequently the fields were sparingly set in grass, when the farm came into my possession; early in March, 1848, I applied 50 bushels more of my slacked lime per acre upon the grass leaving it lay until the following August, at which time I commenced plowing for wheat, finishing about the first of September. I then applied upon these fields all the barn-yard manure I was able to make from March 1st, until August 1st, (which as you may suppose, was a small quantity, very weak and poorly raked,) covering the balance of the fields with Peruvian & Patagonian Guano. The following spring seeded $\frac{1}{2}$ gallons of clover seed per acre. This crop of wheat yielded about 15 bushels per acre. After cutting and housing the wheat, from these fields I applied 50 bushels more of slacked lime per acre upon the sod, and let it remain until the spring of 1851, at which time I plowed the sod to the depth of 7 inches and applied 100 bushels more of slacked lime, prepared the land and tilled it in corn. The yield averaging about 60 bushels per acre.

I then let these fields remain over until the fall of 1852 (giving me what we call a corn-stalk fallow) I commenced plowing for wheat about the first of August and had to encounter a growth of weeds, averaging about 4 feet, these weeds were all green and in good condition to plow under, I attached ox chains to my plows (Beach Patent No. 10) and succeeded in getting them all under handsomely; having applied Gypsum at the rate of two bushels per acre, early in the morning whilst the dew was upon the weeds, taking care not to spread over more ground than could be plowed during the day; after plowing I had spread at the rate of 80 bushels of wood ashes per acre, immediately after spreading the ashes had the fields rolled, 10 days after I had the ground harrowed each way, harrowing the way it was plowed first. In the course of 10 days more I applied 150 lbs. of Peruvian Guano per acre, mixing it with the earth by running cultivators over it. I then fallow harrowed it cross wise of the cultivating, then rolled again, and commenced drilling my wheat in on the 22d day of September and finished on the 26th, and seeding at the rate of 2 bushels per acre of Euterian white wheat, the yield of which was agreeable to your statement.

"Font Hill Farm" (or the farm upon which I now reside) I purchased in the month of November, A. D. 1847, containing about 200 acres of land, all arable. The farm was in the most delapidated condition and exceedingly barren, but on account of its desirable soil and location, being immediately contiguous to the thriving town of Smyrna, I was induced to purchase it at a cost of nine thousand dollars. The whole tract including buildings having been rented for years previous for the sum of eighty dollars per annum. I obtained possession of it the first day of March, A. D. 1848, and the first object I desired was to inclose and divide it into fields with the best Chesnut and white Oak fence, which I accomplished by the following winter at the expense of \$1500 and in the course of the same year spread 25000 bushels of the best Schuylkill and North River Lime upon it covering every acre at the rate of over 100 bushels. About thirty acres of which I also covered with laboratory refuse at the rate of 100 bushels per acre, besides spreading 3000 bushels of good Boston wood ashes and using ten tons of Peruvian Guano. From these applications I derived great benefit, all of my crops showing a considerable increase.

My crop of corn, was planted upon an old sedge field and the most remote from the buildings, containing 90 acres. This field had been cultivated but twice for twenty years previous, the greatest yield from either tillage as I was credibly informed being but 5 bushels of corn per acre.

The course I pursued was to spread 50 bushels of slacked lime per acre on the sedge before plowing and 50 bushels of do. together with 50 bushels of good wood ashes per acre immediately after plowing, and before rolling and harrowing. After having the land marked out for planting, I had dropped, a small portion of Peruvian Guano in the hill, covering it first with earth, then had the corn dropped and covered by hoes. After the corn came up and we had finished replanting it, I had the earth leveled down by passing fallow harrow up and down the rows; my tillage then was entirely with cultivators, with the exception of hoeing it once. Notwithstanding the great outlay at first I considered I was well remunerated, having gathered and housed that fall 3300 bushels of corn or an average of about 37 bushels per acre, leaving the land in an improved condition equal the whole cost of the applications or outlay. During the autumn of 1848 I concluded to move upon the farm and immediately employed workmen and had the dwelling and kitchen thoroughly repaired and painted, and commenced occupying it on the first day of March, A. D. 1849. After having got settled down upon it and taking a general view of the condition of the land, added to my experience of the past year, I found it necessary to pursue for two or three years a hard course of tillage, besides employ much extra labor in order to eradicate the pernicious weeds and destructive insects with which the land did abound. Pursuing this hard course of tillage I made liberal applications of Lime, Guano, Laboratory refuse, wood ashes, barn yard and stable manures, and by reference find up to this time I have used sixty thousand bushels of lime, twenty thousand bushels of wood ashes, fifty tons of guano, besides a variety of other concentrated fertilizers, and covering all the land over twice or thrice with stable and barn-yard manures, and plowing under green crops of buck-wheat oats and clover.

This course of tillage prevented my being able to get into a regular system of cultivation as soon as would be generally desired.

The past two years I have allotted about 50 acres for standing pasture or grazing land, 50 do. for mowing about 50 do. for corn, 40 do. for wheat, 5 do. for potatoes and 5 do. for orchard and truck patch. My crops now are about 80 tons of hay, 12 to 1500 bushels of wheat, 3000 bushels of corn, 600 to 800 Potatoes, a variety of fruit and vegetables, besides fattening from 40 to 50 western bullocks. The property cultivated must improve and increase in crops without further outlay for years to come.

I was obliged to add building to building as the increase of my crops demanded it which now comprise every building requisite, viz: stable for 8 horses, 36 by 23 feet, cow-sheds 12 by 17 feet, with calf house, stalls mangers and chains for 12 cows. Granary and Corn-cribs; Barn and Corn-cribs in which can be housed 3000 bushels of Corn and 1500 bushels of Wheat, Hay house and Wheat house each 50 by 23 ft. Beef house for stall feeding 60 by 17 feet, 12 feet overshoot, stalls for ten bullocks, with gates, halters &c., and food room at one end, ox-shed with stalls and gates, for 6 head, at the end of which is stabling for Brood mares and Colts, waggon and cart sheds, Carriage horses tool house &c.

The Barn Yard is conveniently divided into four yards, in order to separate the different cattle and horses, and each yard well supplied with water, and is inclosed by buildings and board fences, with shedding around and through it to shelter the stock, under which are good oak mangers, besides square mangers and good racks about and over it.

The Dwelling House is a two story brick, with a large and commodious Kitchen attached, both of which have undergone a thorough repair and painting, situated conveniently is a good smoke house, ice house, wood and poultry house. In order to make the situation a desirable place of residence, my efforts have been directed to transplanting fruit and ornamental trees, evergreens, shrubbery. Three acres are now occupied with apple and peach trees of the most choice fruit

selected with a view of quality and rotation of crops, (from the earliest to the latest) also a great variety of choice pears, cherries, apricots, quinces and plumbs. The garden is large well laid off and abounds in the best variety of raspberries, strawberries, grapes, gooseberries, currants, &c., and is adorned with choice roses and flowers. The yards are neatly laid out and decorated with shrubbery, evergreens, ornamental trees, &c.

This farm is now offered to the public at Private Sale. A situation placed contiguous to such a thriving enterprising and moral town as Smyrna, affording a market to all kinds of produce, as remunerative as Philadelphia prices, with few exceptions, and a daily communication by Steamboats to Philadelphia, is not often in the market. The many advantages it possesses, are too numerous to place upon paper. Persons desirous of such a situation as a place of residence would do well to call and examine for themselves.

DANIEL CUMMINS.

"Font Hill," near Smyrna. March 14, 1854.

N. B.—The course of improvement which I adopted is one, in all probability, that will not meet with the views of the great mass of Agriculturists, more particularly those who are dependent solely upon the product of our poor, impoverished and worn out farms.

Where persons have the means, or the ability to persevere a fast or rapid course of improvement, I certainly should recommend a liberal outlay at once, being thoroughly and satisfactorily convinced in two instances, where I have improved tracts of land worn out and impoverished, and that proof based upon correct accounts kept of expenditures, including interests, &c., that the first cost added to improvements, (where the improvements are confined principally to application upon the soil) will pay an interest of 10 per cent, easier than the land in its original worn out condition will pay an interest of 6 per cent.

My views upon the most economical and safe plan to be pursued by persons who are solely dependent as stated above, would be, first apply Guano to wheat, sow clover seed upon wheat, plaster, clover, and apply lime upon the sod, and let remain not less than 12 months.

Wheat vs. Cheat Again.

[We take the following extract from a communication by our friend JACOB GUNDRY, Esq., of Union county, in the *Lewisburg Chronicle*:]

MR. EDITOR:—I see in your paper of to-day a statement that Prof. Mapes had exhibited a specimen of Wheat and Chess growing upon the same head, and asking for the experience of farmers on the subject.

For twenty years I have made this a matter of special attention, and my experience is that wheat will not degenerate to chess, under any circumstances.

A microscopic investigation of the head exhibited by Prof. Mapes might perhaps reveal a deception, and it would not be the first time that fraud has been used to prove that wheat will turn to cheat.

When I was in Washington, nearly two years ago, D. Lee, Jr., informed me that some of the agricultural societies in 'York State had offered \$100 to any person who would produce a stalk on which the two kinds of grain were growing at the same time. Two stalks were offered for the prize. One was found, however, to have a head of wheat glued upon a stalk of cheat at a nicely-fitted joint, and a thread run through the head and stalk to the root, to hold it well together. The next specimen, however, was thought to be genuine: there was certainly wheat and cheat mixed on the same head. But after a closer examination it was found that the chess was pasted in the wheat by a paste of the same color as the straw, and it was so well done that it required the closest scrutiny with the microscope to detect the fraud.

Such an imposition may have been practiced upon Prof.

Mapes in this case, for our most learned agriculturists sometimes fall into great errors, which careful, practical, life-long farmers readily detect.

Bushel and Acre.

What difference is there in the United States bushel and the English—also in the acre of the two countries? *Ans.* The standard bushel of the United States is the same as the "Winchester bushel," which was the standard in England from the time of Henry VII to 1826, and contains 2150.4 cubic inches. The present standard in England is the "Imperial bushel," which contains 2218.192 cubic inches, being within a fraction of 68 cubic inches larger than that of the United States. The acre is the same in both countries.

Nitric Acid, a Source of Nitrogen in Plants.

The source from which plants obtain nitrogen, which is now recognised as one of their most important elements, has, from the first recognition of its importance, been a matter of dispute. Latterly, however, chemists and physiologists have pretty unanimously come to the conclusion that a large (perhaps the largest) part of the nitrogen of vegetables is derived from ammonia; whilst much discussion has been carried on as to the question, Is any part of their nitrogen yielded by nitric acid?

Firstly. The production of nitric acid in the atmosphere during thunder-storms is a certain, not a questionable fact; and the scale on which it is produced is such as to necessitate its recognition as a portion of the azotised food of plants. That this should have been questioned is perhaps not strange, for the newly discovered truth that ammonia is generally present in the air could scarcely fail to throw into temporary oblivion the equally important truth that nitric acid is generally there also. The name of the great living chemist Leibig is identified with one discovery, and the great dead chemist Cavendish, with the other; and we must not grudge that the greater interest should be felt by most in the doings of the great living philosopher. But assuredly it is not necessary to set the two truths against each other as if they were mutually incompatible, or in any respect contradictory. On the other hand I believe they are complementary, and form an essential and manifest part of the harmonious adjustment which we everywhere perceive guarding plants and animals against imperfect nourishment or decay.

Secondly. As for the proposition that the ammonia of the atmosphere, is converted by simple oxidation, as in the process of nitrification at the surface of the earth into nitric acid, I might leave it unconsidered, for my concern is simply with nitric acid, not with its source. I am quite prepared to admit the probability of atmospheric ammonia undergoing a conversion into nitric acid; for although one condition essential to nitrification in the soil, namely, the presence of alkali or alkaline earth, is wanting, yet, from what is known of the intense oxidizing power of ozone, we may well believe that when it is developed in the air, as it so certainly and frequently is, it will compel the conversion of ammonia into nitric acid. It will presently, indeed appear that from the recent researches of Barrell, it is probable that nitric acid is generated in the atmosphere at the expense of ammonia. If this, however be the case, then we must acknowledge, that in addition to thunder-storms, a force is constantly at work in the air producing nitric acid, and further, that this force is constantly removing from the atmosphere the ammonia on which plants are supposed to be solely dependent for nitrogen.

Thirdly. Rain water is often found to contain nitric acid in combination of different bases.

Fourthly. It has been known for more than a century that many springs contain nitrates.

Fifthly. It is now universally admitted that whatever nitrogenous vegetable or animal matter is exposed to the air along with alkaline bases, ammonia is developed, and then oxidised into nitric acid, which combines with the bases. Now, those conditions are extensively realised all over the globe, both in cultivated and uncultivated tracts of land; and in the warmer regions of the earth, where decomposition proceeds with the greatest rapidity, the production of nitre in the soil is constant and immense. India alone furnishes Great Britain with all the nitre needed for her gunpowder.

Sixthly. The most marked nitrous districts of India are

celebrated for their fertility, provided a due supply of water is furnished to them.

Seventhly. The alkaline nitrates dissolved in water, and not employed in too strong solutions, have been found greatly to quicken the growth of plants; and the nitrate of soda, which, from its cheapness, is most accessible, is daily coming into greater use among our farmers. In the current number of the Journal of the Royal Agricultural Society will be found the last of a series of papers on this subject, in which the virtues of nitrate of soda, in increasing the amount of the growth of Wheat yielded by a field manured with it, are placed by Mr. Pusey, above those of ammonia.

Whatever else, however, is doubtful this is certain, and is acknowledged by Chemists of every school, viz: that a plant is like a blast furnace, which the sun kindles every day into full action; and that no oxide can pass through such an apparatus without risking the loss of all its oxygen. With what consistency, then, can it be contended that water carbonic, acid, and sulphuric acid, cannot pass through a plant in the presence of sunshine, without being deprived in whole or in part of their oxygen, but that the much more easily deoxidised nitric acid, in the same circumstances, will not suffer deoxidation? It might as well be affirmed that a blast furnace may be competent to reduce the refractory oxide in iron, and yet be incompetent to reduce the easily reducible oxide of lead.

Teachers of Chemistry appear to be reluctant to admit two sources of nitrogen for plants, because it complicates their statements, and multiplies their formulæ; but the partial representations of truth, to which all teachers are compelled, however catholic in spirit, can never justify the expression of one-sided views, as the counterpart of the multi-form unity of nature. Those, moreover, who have been accustomed to trace back all azotised vegetable compounds to ammonia, need only postulate that nitric acid having been deoxidised into nitrogen, that element mixes with hydrogen to form ammonia, before any organic compound is developed; and thereafter they may carry out the ammonia theory as before. Such a conversion of nitric acid into ammonia is not hypothetical, for it can be readily effected by diluting the acid largely with water, and dissolving zinc in it.

It would consist with the modesty of true science to be less dogmatic than we generally are on the phenomena which occur within the inscrutable recesses of a living plant; and the probability of its being able to employ as food various azotised as well as other compounds. If, however, we are required to reduce to its simplest chemical expression the conclusion to which our present science warrants regarding the inorganic origin of the nitrogen, so essential to plants, we must not say that only ammonia, or only nitric acid is its source, but that both are; or in a word, that the chief mineral or inorganic representative and parent of a nitrogenous constituents of plants and animals is the nitrate of ammonia. *Paper by Dr. Wilson, in Translations of the Royal Society at Edinburgh.*

AD INTERIM FRUIT REPORT.

FEBRUARY 21, 1854.

To the President of the Pennsylvania Horticultural Society:

The Fruit Committee respectfully present their usual monthly Ad Interim Report, in relation to the Pomological objects submitted to their examination since the last stated meeting of the Society,

Wortley Hall Seedling—from J. Fiske Allen, of Salem, Massachusetts.—Mr. Allen considers this Grape far before all others for the retarding house. The Wortley Hall Seedling has some resemblance to the West's St. Peter's. The berry of the former, however is more oval in form, and has a thicker skin. Bunch, seven and a half inches long by three and a half broad; shouldered; berries loose on the bunch; berry, seven-eighths of an inch long, two-thirds wide; form, oval; color, bluish black; skin, thick; flesh, solid; flavor, sweet, and somewhat vinous; quality, taking into consideration long-keeping property, "very good."

Newtown Pippin Apple—from Dr. E. S. Hull, President of the Alton Horticultural Society, Illinois. These were the largest and most beautiful specimens of this variety that we have seen for many years. They were more conical in form than those we ordinarily meet with. Quality, "best."

Gullet Apple—from Dr. E. S. Hull, Alton, Illinois.—Specimens variable in form and external appearance; one specimen resembling Pryor's Red. Size large, from three and one-eighth inches long by three and seven-eighths broad, to

two and seven-eighths by three and three-eighths; form, oblate inclining to conical, sometimes oblong; color, brown in stripes, on a greenish yellow ground, with numerous grey dots, and occasionally a few green russet blotches; stem, five-eighths of an inch long, and slender, often short and thick, inserted in a deep, narrow, sometimes open cavity; calyx, medium, set in a small, often rather wide, shallow basin; core, small; seed, small, dark brown, acute-ovate; flesh fine texture, juicy; flavor, pleasant; quality, "very good."

The Gilpin or Carthouse Apple—from Dr. Hull, Alton, Illinois.—Specimens not true to name. The variety being unknown to us, we annex the following description of it: Size, under medium, two and three-sixteenths of an inch long by two and five-eighths of an inch broad; form, conical, broadest at the base; color, mottled and striped with red, and interspersed with many grey dots; stem, half inch long by one ninth thick, inserted in an open, acuminate cavity, slightly russeted; calyx, medium, set in a wide, rather deep basin; flesh, crisp, juicy; flavor, pleasant; quality, "good."

Rawle's Janet—from Dr. Hull, Alton, Illinois.—Size, medium, two and seven-eighths inches long by three broad; form roundish; color, mottled and striped, with pale red on a greenish yellow ground; stem, slender, three-fourths of an inch long by one-tenth thick, inserted in a narrow, acuminate cavity; calyx, medium, set in a wide, shallow basin; flesh, greenish white, fine texture, tender, juicy; flavor, excellent; quality, "very good."

Reading Pear—from Nicholas Lott, Reading.—This fine native winter pear we have repeatedly noticed in our Ad Interim Reports. Specimens not as large as usual.

Pears for their name—from Nicholas Lott, Reading.—These were large specimens of Uvedale's St. Germain, familiarly known in this country as the Pound Pear.

Orange Pippins and Dumpling Apples—from Nicholas Lott, Reading.—In former Reports we have noticed both of these varieties.

Keim—from Mrs. Kessler, Reading.—The late-keeping native apple has been noticed in several of our previous Ad Interim Reports. Several from Mrs. Kessler very fine.

A Strawberry Plant in Pot—from Mr. Thomas Meehan.—This plant contained one ripe, perfect berry; size, large, nearly three and three-fourths inches in its horizontal circumference; form, roundish; color, brick-dust red, with brownish seed set in superficial indentations. Besides this ripe berry, it had on it four deformed and defective unripe ones, and eight abortive flowers. The anthers, that were still visible, shewed it to be a staminate variety; and by some of the Committee it was considered the Cushing. With this plant the following letter to the Committee was received on the 9th instant:—

"To the Fruit Committee of the Pennsylvania Horticultural Society:

"GENTLEMEN:—In seeking the name of the Strawberry sent herewith, I beg to make a few remarks in connection. Last spring I exhibited before the Society three plants, as I believed of the same variety as this. One plant having all the flowers pistillate, another all hermaphrodite; the third having both pistillate and hermaphrodite. By direction of the Society my remarks sent with the plants were printed. Friends at a distance subsequently came forward, who expressed an opinion that my plants could not be 'Hovey's Seedling,' must be some variety in which the power to vary in its sexual character was a "characteristic" feature. I may be allowed to observe that if this variety be not Hovey's—a strawberry that bears abundantly, will produce fruit averaging from three to three and a half inches in circumference—not only in its natural season, but the first week in February, and hermaphrodite in its sexual character, is at least equal to Hovey's. The history of this kind, so far as my knowledge is concerned, is as follows: When I took charge of this establishment, in 1852, a large plantation of strawberries had been made the preceeding fall, and which were given up to me as a new bed of Hovey's Seedlings. The plants being set eighteen inches apart, afforded good opportunity for observation. On their first flowering every one that flowered up to a certain date, comprising nearly the whole of them, bore pistillate blossoms. There being no others on the place, and being at that time myself a firm believer in the "unchanging" theory, I mentioned to my esteemed employer the fix we were in, and suggested the propriety of procuring at once some staminate varieties. A week or so afterwards he being at Springbrook, we examined the bed together, with little else but hermaphrodites were to be found. This

suggested to me the experiments you are already advised of. The plant from which this fruit was obtained was from a plant marked while in flower last spring. It is a very weak plant, as you will perceive by its inability to bring to perfection, at this early season of the year, the other very few flowers that opened, and that it was hermaphrodite you will readily perceive by the dead stamens at the base of the fruit. In its natural season of fruiting the color is deep crimson.

"Very respectfully,

"THOMAS MEEHAN.

Mr. Meehan is well known as one of our most estimable, intelligent, and scientific cultivators. His honesty and integrity, we are fully convinced, would not suffer him to advance an opinion the soundness of which he did not most conscientiously believe. And by all who know him it is freely admitted that his views on horticultural subjects are remarkably correct. Entertaining, as we do, these opinions of Mr. Meehan, we regretted the appearance of his communication to the Society, on the 17th of March, 1853, respecting the changeable sexual character of Hovey's Seedling Strawberry. Being persuaded that he had been led, unintentionally, into error, we were unwilling to take any action, officially or individually, in regard to his communication, under a conviction that his acknowledged discernment, honesty and intelligence would eventually enable him to discover the unsoundness of his experiments, and cause him unhesitatingly to repudiate them. His letter has, however, now brought the matter fully before us, in such a way that we are no longer at liberty to decline its investigation. In the paper read before the Society, and referred to in his letter to the Committee, he broadly asserts that Hovey's Seedling may be made staminate or pistillate, at pleasure, by cultivation. In proof of this assertion, he exhibited three plants, each in a separate pot—one having none but pistillate blossoms; the second none but hermaphrodite blossoms; the third containing blossoms some of which were pistillate and the others hermaphrodite; and these several sexual differences he attributed entirely to cultivation. Now, if each one of these three plants was a genuine Hovey's Seedling, Mr. Meehan has most unquestionably and conclusively established the truth of the doctrine for which he contends. The vital question, then, to be solved is, was each of these plants a genuine Hovey's Seedling? This point we will now examine. In the communication to the Society no evidence of their genuineness is presented, apart from the simple statement that they were Hovey's Seedling. On this point, however, the letter to the Committee does not leave us so much in the dark. So far, however, from establishing their genuineness, it furnishes strong grounds for a contrary belief. For in it Mr. Meehan gives us their history in the following words: "When I took charge of this establishment, (Springbrook), in 1852, a large plantation of strawberries had been made the preceding fall, and which were given up to me as a new bed of Hovey's Seedling." Subsequently, in speaking of the plants in this bed, he emphatically assures us "there were no others on the place." This bed then was the source whence Mr. Meehan obtained the plants with which he experimented. And the only evidence he had that they were Hovey's Seedling was that they were given up to him as such. In this stage of the investigation it is of some consequence to know whether this bed was made by a person in whose honesty and accuracy implicit confidence could be reposed. It is known that Thomas Ryan's successor, and Mr. Meehan's immediate predecessor, was gardener to Mr. Cope in the fall of 1851, when the above-mentioned bed was set out: but we question whether Mr. Cope or Mr. Meehan will say that he was entitled to such confidence. It is a matter of record that there were a number of varieties at Springbrook the year before. On referring to the proceedings of our Society for March, 1850, it will be seen that Ben. Daniels exhibited a 'bed' containing the following six varieties of strawberries, viz: Hovey's Seedling, British Queen, Buist's Early May, Keen's Seedling, Sciota, and Cushing. At that meeting the proceedings also show that the fruit Committee awarded "a special premium of ten dollars to Ben. Daniels, gardener to C. Cope, for the magnificent display of strawberries, embracing several foreign and native varieties." It is barely possible that all these plants, embracing six varieties, were in some way or other lost; but it is probable that such was the case? Is it not far more probable as they formed so attractive a feature at the March meeting, and excited at the time such universal admiration, that they were not only retained but that they had increased in numbers; and that some of them were used in making the "new bed of Hovey's

Seedling" in the fall of 1851. For we have the positive assurance of Mr. Meehan that there were no strawberries at Springbrook when he took charge of it in 1852, except those contained in the bed whence he took the plants with which his experiments were conducted. But even admitting that this bed was made entirely from a plantation which originally were undoubtedly Hovey's Seedling, it by no means follows that the bed contained none but genuine plants of this kind. For no bed, of any variety, can exist for two or three consecutive years in a bearing state without having its purity more or less impaired by accidental Seedlings. Many of the seed, that necessarily fall to the ground, vegetate and produce plants—some of which will differ from their maternal parent in sexual organization, time of inflorescence, period of maturity, and in various other particulars. We have seen strawberry seed, that were planted in midsummer, produce plants that bore fruit the very next year. There is no certainty therefore, that all the plants in a bed are of one kind, unless they are all produced by runners from a single plant. In regard to the plants in the bed at Springbrook, Mr. Meehan says, in his letter to the Committee,—"on their first flowering every one that flowered up to a certain date, comprising nearly the whole of them, bore pistillate blossoms." * * * * * "A week or so afterwards, he (Mr. Cope) being at Springbrook, we examined the bed together, when little else but hermaphrodites were to be found." The question here arises,—how can this difference in the sexual character of the blossoms, at these two periods of time, separated by an interval of "a week or so," be accounted for, if it were not owing to the presence of more than one variety in the bed? It is certainly not explained by the adoption of Mr. Meehan's views; for if those views be correct, no such sexual diversity ought to have existed,—all the blossoms should have been pistillate or all staminate, as all were subjected to the same cultivation. Again, in allusion to the plant we received from him, he says in his letter to the Committee: "It is a very weak plant as you will perceive," &c. Then, according to the doctrine developed in his communication to the Society, it ought to have produced pistillate blossoms; but it did not, they were all either hermaphrodite or staminate. The remarks now made we think are sufficient to invalidate any inferences drawn from Mr. Meehan's experiments, since it has been shown there is no certainty that the plants employed in those experiments, were genuine Hovey's Seedling. We regret that our regard for Mr. Meehan prevented us from examining the three plants when they were exhibited by him at the March meeting of the Society. Had that been done, the profitless discussion that has subsequently arisen, and which has resulted in no little unkind feeling, might perhaps have been obviated. But as we have now engaged in the investigation, we have subjected the plant sent to us by Mr. Meehan, to a careful and rigid examination to ascertain its genuineness. And, after having made this examination, we are prepared to say most emphatically, unreservedly and unequivocally, it is not a Hovey's Seedling. Should Mr. Meehan still be unconvinced that his experiments were based on uncertain data, and consequently that any conclusions from them, however, legitimately drawn, are illogical and unreliable, we trust he will repeat them in such a way as to avoid the sources of error to which his former ones are amenable. Let the plants, with which he may experiment, by all means, be runners taken from one and the same plant; we shall then have conclusive evidence that they are at least, all one kind. And should he determine to continue his experiments in this direction, we would also advise him to obtain, if possible, runners from each of the three plants exhibited by him in March last, and subject some of the runners of each to his several modes of cultivation. The result will either substantiate his doctrine, or satisfactorily prove that these three plants were separate and distinct varieties, possessing invariable, unchangeable and immutable sexual characteristics, unalterable by cultivation, however diversified by human sagacity. After the above was written, one of the Committee received a communication from Mr. Meehan, in which he informs us that the three plants exhibited by him at the meeting of the Society, in March, 1853, "were thrown away soon after the exhibition I having no idea that there would ever be occasion to refer to them again." This loss we regret. We learn, however, from Mr. Cope, that he has three or four hundred pots of plants, (taken it is to be hoped from the same "new bed of Hovey's Seedling,") in his forcing house at this time; "and," he remarks, in a letter to a member of the Committee, "however little dependence the Committee may feel disposed to place in the statements con-

cerning the experiments in progress, yet the result will nevertheless be before them for their judgment." Should Mr. Meehan, in this large collection, be so fortunate as to find, (and if his theory be true he undoubtedly will,) three plants possessing the several distinctive sexual characteristics of the three he exhibited on the former occasion, we trust they will not be "thrown away," but be experimented with, by him, in the manner already suggested, or else placed in the hands of some other reliable person, for this purpose. In his communication to one of the Committee, Mr. Meehan also states explicitly, that the plant sent to us is not one of the three exhibited before the Society, but was from a plant that had borne hermaphrodite flowers. It appears, then, that it, at any rate, has not changed its sexual character, the blossoms having been hermaphrodite before, and are hermaphrodite now notwithstanding its present feebleness.

It is probably within the recollection of many of the members of the Society, that views somewhat analogous to those of Mr. Meehan were, at one time, maintained by the late Mr. Downing. He contended that the natural condition of Hovey's Seedling was staminate; but by permitting the old plants to bear for several successive years, their luxuriance was impaired, and their sexual character altered—in other words—they became pistillate. And to prove the correctness of his position, he announced his intention of sending the Massachusetts Horticultural Society several of his plants in pots. After that announcement, as nothing more is found in the Horticulturist on the subject, it is probable that he abandoned the doctrine. Be this, however as it may, we have been credibly informed that he did send the plants to Boston, and that the Fruit Committee of the Massachusetts Horticultural Society decided that they were not Hovey's Seedling.

In Concluding our Ad Interim Report, we take great pleasure in stating, that several of our Rail Road Companies have given practical and substantial evidence of their interest in the cause of Horticulture, by extending to us important facilities in the prosecution of our pomological investigations. The facilities to which we allude are free tickets, kindly presented to one of the Committee, to be used by him as often as required, during the entire year 1854. For these privileges we are especially indebted to John Tucker, President of the Philadelphia, Reading and Pottsville R. R. Company; to J. Edgar Thompson, President of the Pennsylvania R. R. Company; to Joseph Yeager, President of the Harrisburg and Lancaster R. R. Company; to S. M. Felton, President of the Philadelphia, Wilmington and Baltimore R. R. Company, and to Wm. H. Gatzmer of the Camden and Amboy R. R. Company. Such liberality on the part of the Presidents and Managers of the Companies, in aiding Horticultural explorations and researches, and diminishing the taxes levied from individuals in their disinterested labors to promote a great national interest, merits our cordial thanks and public acknowledgements.

FLAX GROWING.

CIRCULAR.—Having made extensive arrangements, within the past two years, for the spinning and weaving of Flax, and the manufacture of Linen Goods, which will enable us to consume annually a much larger amount of the raw material than is at present prepared or sent to market in this country, we have been obliged to import from Europe several hundred tons of the Flax fiber to supply our immediate consumption. This necessity has existed, not from the fact of the growth of Flax being unadapted to our soil or climate, but because the attention of our farmers has not for many years been drawn to the subject by any demand for the prepared fiber. Recent investigations have shown that more than two hundred thousand acres have been occupied the past year in our Western States with the Flax crop, it being grown entirely for the seed; in many places the stock and its fiber being wasted and thrown away. In Ohio alone over eighty thousand acres have been under Flax cultivation for the supply of the Linseed Oil Mills in Cincinnati, Dayton and other parts of the State.

But while the seed is a valuable and important portion of the Flax crop, the fiber is deemed in Europe even more so; and in many places the latter only is cared for, from a false impression, that the two objects are incompatible with each other. The reports and exertions of the Irish Flax Society however, and the experience of many parts of Europe, and of all modern science have shown that so far from the fiber being injured by a sufficient maturity of the Flax plant to

fit the seed for the market the reverse is the case, and with proper management both can be advantageously preserved.

We are therefore desirous of calling the urgent attention of the growers of Flax and of the farmers generally in the West, to this long neglected branch of industry; and are prepared to offer direct inducements to them, so to modify their method of cultivation, as to accomplish the end in view. In a letter from Mr. Thomas Kimber, Jr., of Philadelphia, (who has spent some time in investigating the subject of Flax culture,) to Gov. J. A. Wright, of Indiana, says:

"The secret lies in the *proper preparation of ground* before sowing the seed. If the farmer would give the land a fall plowing, and leaving it over the winter to mellow then plow it deeply again in the spring, reducing it as fine as possible without too much labor, he would on good ground, average 20 bushels of seed to the acre. The Flax plant is peculiarly sensitive to such attention, and amply repays them; the roots striking downward almost as deep and straight, where the ground is open and mellow, as the stock shoots upward. It is not too much to say that taking into consideration the increased seed as well as the fiber, every dollar so spent in plowing and pulverizing the ground would yield ten-fold in the harvest gathered.

"The land best suited for flax is an open, rich loam, with a clay sub-soil if possible. In the next place for the fiber: If the farmer would sow 2 bushels or $2\frac{1}{2}$ to the acre, on rich grounds so prepared, he would while obtaining 20 bushels of seed, also obtain 2 tons to $2\frac{1}{2}$ tons of flax straw per acre. At present, with the poor preparation and thin sowing not over one or one and a quarter tons are obtained on an average. Every ton of straw yields 300 pounds of flax fiber, so that he would then obtain if he chose to rot and prepare it as was done in the days of our grandfathers about 600 or 650 lbs. per acre of flax fiber rotted and scutched. This would give, by the slight addition of fall plowing, enriching if the land needs it, and after sowing a light brush harrowing or rolling a great increase of profit to the farmer."

We propose, in order to give the grower an idea of our wants to deposit with well known parties in each State, adequate samples of the flax fibre grown in our own and other countries, and imported by us within the past few months, and to affix to each sample the cash price we paid for those qualities, when laid down in New York, adding the charges for commissions, freight, duties, exchanges expenses &c. We will then bind ourselves to pay for twelve months from this date the same price in cash, for all the flax fibre of equal qualities to the samples so deposited, which may be prepared and forwarded to New York by western parties, or to pay such prices, less the freight and other charges to New York, on all Flax so delivered to our agents in Louisville, Cincinnati or in Chicago.

By this means the American farmer will secure to himself not only the profits which have been found sufficient to remunerate the European cultivator, but the many charges to which such articles are subject in the transit; and also may, with proper management obtain a larger amount of Flax Seed per acre than he now realizes. And we fully believe that, after having been induced by the above extraordinary offer, to try the experiment fairly for one year, he will find flax to be the most profitable crop he can turn his attention to.

We propose taking the Flax at *some rate*, unless it should fall too far below the lowest sample furnished, to be of any advantage for us to manufacture. We wish all the Flax either pulled or cut with a cradle so carefully as to preserve the stalk uninjured at the ends, and the seed taken off by a rippling comb, or by passing the heads of stalks through rollers, so as to avoid the present destructive effects of threshing; the Flax to be water-rotted and scutched; to be sent in bales or packages, so as to be ready for heckling on reaching our mill.

AMERICAN LINEN COMPANY,

Per Walter Paine, 3d, Treasurer.

Fall River, Mass., March 8, 1854.

Preserving Fruits and Vegetables.

From the proceedings of the New York Farmers' Club, we extract the following substance of remarks by Professor Mapes in the discussion as to the best method of preserving fruits and vegetables. We find them in the American Artisan:

Mr. Chairman—As I was not aware of the subject of dis-

cussion for to-day until this moment, I am, of course, unprepared to offer anything except such remarks as most naturally arise in the minds of all present. Before entering upon the subject proper, permit me to offer some general remarks embracing the principles necessary to be understood in the preservation of fruits, for the purpose of making a platform on which to found our modes of action. Apple and other fruits containing a large amount of water, in which is held in solution the different proximates, and these undergo a variety of changes, some of which are favorable to the preservation of the fruit, and some incidentally to their decay. Those changes, therefore, which produce decay should be avoided.

The Professor then gave all the facts relative to the acetous fermentation, the methods of avoiding it in the drying of fruits, &c. He referred to the necessity of adopting such processes as should not abstract the aroma from fruits. He stated that if the fruits be buried in the soil, the alumina and carbon of the soil would abstract the aroma, and render the fruits nearly valueless.

Indeed, plaster of Paris, cotton, cotton cloth, and many other substances, have that power to a very great degree. Thus Isabella grapes preserved in cotton, will be protected from the deleterious effect of the moisture given off by the grapes, but they will lose their aroma so completely as to become valueless. He also spoke of the oxidation of the sugar in fruits, and of the different properties of cane and grape sugar; the propensity of the one to attract moisture and thus to render the solution more dilute. He spoke of the exposure of a broken apple to the atmosphere, turning it to a brown color, in consequence of the sugar of the apple combining with the oxygen in the air, and changing it to that state known as treacle, or molasses. Thus an apple ground to a pomace, exposing its surfaces to the atmosphere, would change color, and the expressed juice would be colored, and have that peculiar flavor which we know as belonging to cider—but, that if a whole apple be suddenly pressed, the juice would be white, have the true flavor of the apple, and quite unlike that of cider. That a Tozlee Joint Press might be made with a hopper admitting one apple at a time under a Plunger, through which the juice may be expressed, and that cider from juice so procured would be of superior quality; for, although the intestinal commotion of the fluid mass by fermentation, will cause its particles to come in contact with the atmosphere, they would be different; with a small amount of carbonic acid on the surfaces, preventing immediate contact of the atmosphere to a full extent, and thus the cider would be lighter colored and finer flavored.

He spoke of the superior qualities of fruits dried rapidly, compared with those prepared by slower processes, by which a larger amount of their aroma is retained; the acetous fermentation is prevented, and the fruit not so much darkened by the operation as when more slowly dried.

He described the apparatus now in use by the American Phalanx, of Monmouth county, New Jersey, by which they are enabled to dry *Okra* while it is in the unripe state (that is, proper for working); also, green corn, Lima beans, young green peas, peaches, apples, &c., &c.; and that the vegetables and fruits so dried, readily swell to their original size in cooking, and have their true flavor—a very superior result over the ordinary methods. This is done by placing the young fruits and vegetables in drawers with bottoms of wire, or any thing which will let air pass freely; these drawers are placed in a wooden chimney, at the bottom of which a blower, revolving with great rapidity, causes a strong stream of pure air to pass through these drawers—a moderate heat being supplied to the blowers—the vegetables and fruits are rapidly and perfectly deprived of all their water, and come out in fine condition. He spoke of the valuable uses of the vacuum pans, invented by Howard, in which the juices of spirits could be evaporated to a *solid extract*, at a low temperature, without the admission of atmospheric air, and without material loss in color, or aroma, &c. He also detailed the various processes established in France and elsewhere, for preserving fruits, &c., by placing them in bottles, in hot water, heating them sufficiently to drive off the excess of atmospheric air, and then instantly closing the bottles to prevent air from returning to the fruit. He mentioned the late Mr. Downing's American figs, made of rich peaches—heretofore spoken of. That Mr. Browne, of the Patent Office at Washington City, exhibited to him last week American prunes made of plums, in the State of Maine, superior in quality to any imported

from abroad.

The Professor gave, at full length, the whole scientific rationale of the process of preserving fruits and vegetables. He adverted to the successful methods adopted by Mr. Pell, of Polham, to export to Europe, in perfect, sound condition, very large amounts of his best apples. It would be difficult for us to render justice to the very valuable remarks of Professor Mapes on this occasion. He spoke nearly an hour to a most attentive audience.

Curiosities of the Patent Office—Agricultural Implements.

During the last year, 141 patents were granted for agricultural implements, twenty-seven of which were for harvesters, power reapers, mowers, &c. The following abstract of this interesting department of invention, as exhibited in the Patent report is given in the *Scientific American*:

Three patents were granted for horse power potato digging machines; the models of two of these we have seen, but have not yet had the pleasure of seeing a large one in operation. Fifteen patents were granted for improvements in ploughs, and four for cultivators. No less than twenty-six were granted for seed planters. This number is very large considering that such machines are of no recent origin; it shows the importance of this class of mechanics, and the dissatisfaction entertained with those already in use. The devices patented, however, were mostly confined to the mode of distributing the seed—the novelties patented are said to be small, but that of B. D. Sanders, of Holiday's Cove, Va., for operating the shove rod to work the valves by friction rollers and rotary cam, is a very good one. Three patents were granted for horse rakes, and threshers and separators; one of the latter consisted in having an inclined rotary cylindrical straw carrier supported on friction rollers. This cylinder is full of holes, and as the straw is carried, the grain falls down through the openings. Ten patents were granted for hullers and smut machines—one of them being for washing and scrubbing, and drying the grain. One patent was granted for a weigher combined with a winnower. The weighing apparatus is secured in such a manner to the machine that when the measure is filled up to the proper weight, the balance tips the weighed grain, which is thrown upon inclined ways, and immediately starts off on a railroad track to the grain depot. Four patents were granted for corn shellers; in one the ears are allowed to accumulate, to act in the mass as an elastic bed against the spiral shelling projections. Three patents were granted for straw cutters, and nine for miscellaneous agricultural implements, one of them being for a metallic tube scythe snath.

Vegetable Monsters.

Oregon seems to rival even California in the productiveness of its soil, and the mammoth size to which vegetables attain. Mention is made by the papers of a huge cauliflower, raised opposite Portland, weighing forty-five pounds and the world is challenged to beat it. Mr. Justin Chenoweth writes from the Dalles that he is growing in his garden a cabbage, which he has carefully measured, and found it to cover a space embraced in a circumference of nearly fourteen feet, being four feet and six inches in diameter. The solid head is twelve inches in diameter. He thinks that the whole would weigh over fifty pounds. The seed which produced this plant was not sown until the 21st of May, and the head will probably attain to sixteen inches in diameter. In the same garden he has grown turnips, many of which weighed ten pounds; and watermelons and tomatoes, rivaling both in size and flavor, the best that he has seen in the Mississippi Valley—all being of the first crop, without either ploughing or spading, the planting and tending having been done exclusively with a light Yankee weed-ing hoe, and a garden rake.

A Profitable Farm.

The farm of Bryan Jackson, near Wilmington, Delaware, consists of 220 acres. On this farm he employs three hands all the year, at \$132 per annum, each; two men extra for six months, at \$12 per month, and day hands, whose wages amount to about \$50 a year; making in all, for labor, a cost of \$590 a year. Mr. Jackson, in the *American Farmer*, says: "The sales of the farm the past year will not vary much from fifty-three hundred dollars."

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Prize Essay on the Hereditary Diseases of Horses.

By FINLAY DUN, Jun., V. S., Lecturer on Materia Medica, &c., at the Edinburgh Veterinary College.

[Concluded from page 107.]

Diarrhœa and *Colic* are to a certain extent hereditary, inasmuch as they are very prone to attack horses of particular form and constitution, as those with narrow loins, large flat sides, and of what is generally termed a *washy* appearance. If such animals be worked, especially soon after being fed, if their food be suddenly changed, or if they be allowed an unusual quantity of fluid, they are almost certain to be attacked either by purging or by colic. The tendency to these diseases appears in such cases to depend on a want of adjustment among the different organs of the body; a want of balance among the different functions of digestion, circulation, and respiration.

Many farm horses, as well as others without much breeding, are remarkable for consuming large quantities of food, for soft and flabby muscular systems, and for round limbs containing an unusual proportion of cellular tissue. These characters are notoriously hereditary, of which indubitable evidence is afforded by their existence in many different individuals of the same stock, and their long continuance, even under the best management and most efficient systems of breeding. Such characters indicate proclivity to certain diseases, as swelled legs, weed, and grease. If horses of this description stand long, the circulation of the blood through the limbs is retarded; for, as the contractions of the muscles which materially aid circulation are wanting, the blood in the veins rises with difficulty against its own gravity, while the soft and lax condition of the venous coats, and of the muscles in contact with them, permits the passage of the fluid parts of the blood, giving rise to a serous effusion which is soft and pits on pressure. This anasarous condition, although troublesome and frequently recurring, is easily removed by friction, exercise, or a little physic, and does not unfit the animal for ordinary work.

But the same conformation and constitution which induce simple swelled legs, also give rise to the more serious affection known as *weed*, or a shot of grease. This consists in a disturbance of the balance which naturally subsists between the waste of the system and the supply of new material to repair that waste. Food is assimilated in larger quantity than the wants of the system require, the chyle so formed accumulates in the absorbent vessels and glands, which become in consequence irritated and inflamed. That part of the absorbent system situate in the hinder extremities is usually the principal seat of the disease. The animal suddenly becomes lame, the inguinal and other glands in the groin become enlarged and very painful, and the swelling and pain gradually extend downwards along the course of the absorbents, whilst the limb becomes a great deal larger than its natural size. There is, at the same time, a good deal of constitutional fever, with a full and bounding pulse. The swelling of the leg is in the first instance inflammatory, being hot and tender, and the skin over the part affected hard and tense. Such swellings may by judicious treatment be removed; but, in cases of a chronic character, or where the same limb has been previously affected, lymph is effused, forming hard and nodulous and even diffuse swellings, which often cause lameness by interfering with the motions of the joints or tendons. These indurated swellings must be carefully distinguished from the serous effusions above noticed,

which, although giving the animal an unsightly appearance, do not materially impair his usefulness.

Grease consists in a morbid condition of the sebaceous glands of the horse's heels and fetlocks. It occurs in various degrees of intensity; sometimes as a mere scurfy itchiness of the skin about the fetlocks, more commonly of the hind extremities; sometimes attended with much inflammation, causing great heat, pain, and swelling, and an ichorous fetid discharge; sometimes causing falling off of the hair about the heels, and the formation of deep cracks and fissures; and sometimes becoming so violent and inveterate as to cause eversion of the sebaceous glands, formation of granulations, and secretion of pus, constituting the loathsome complaint termed the *grapes*. There are few diseases better deserving the epithet of hereditary than grease, and few in which the hereditary nature can be more easily discovered and traced. Almost every practitioner can bring to his recollection cases showing the tendency of this disease to descend from parent to offspring. A friend of mine some years ago purchased a valuable four year-old entire horse, adapted for agricultural purposes. When bought, he appeared perfectly sound, and his limbs were nearly black, well formed and fine; within a short time, however, they became thick and greasy. And, although the mares to which he was put were perfectly free from such faults, the progeny have shown, in every case where they can be traced, unmistakable evidence of their inheriting the greasy diathesis of their sire. They have all been found liable to swelled legs when they stand idle for a few days, most of them have been the subjects of repeated attacks of weed, all are affected, particularly in spring, with scurfiness of the skin of the hind extremities and excessive itchiness, and lose at a very early age their flatness and smoothness of limb. The faults occur to a greater or less degree in all the stock of this horse by many different mares, and are distinctly traceable to the third generation. But, although grease is undoubtedly hereditary, and is therefore readily induced by comparatively simple causes, still it is frequently caused, and is always aggravated, by neglect of cleanliness, and of this there is ample evidence in the fact, that it is most common in foul and badly managed stables, and where no pains are taken to keep the horses' feet and legs clean and dry.

Inflammation is of two sorts, common and specific. These differ from each other in their symptoms, their progress, and their termination. Common inflammation is accompanied by effusion of lymph and suppuration, has usually a particular seat or locality, is tolerably regular in its course, and tends to a healthy termination: none are exempt from its attacks, and it is seldom hereditary. It is exemplified in the healing of wounds, and in the so-called phlegmasæ, as pneumonia and pleurisy. Special or specific inflammation, on the other hand, has peculiar symptoms, is not necessarily localised, but may affect more or less the whole system, is very variable in its course, not easily subdued by remedial measures, and seldom entirely cured; not easily produced in healthy subjects by extraneous causes, but producible by inoculation, occurring in animals of certain constitution, and owing its development in great part to hereditary predisposition. There are three subdivisions of specific inflammation—the rheumatic, occurring in the various sorts of rheumatism, and nearly allied to it; the gouty, which, however, is peculiar to man, the scrofulous or strumous, occurring in pulmonary consumption; and the syphilitic, also peculiar to man, but occurring in the horse in the form of glanders. In the horse the two latter diatheses are more intimately con-

nected than in man, and often concur.

Rheumatism is neither so common, nor are its symptoms so well marked in horses as in cattle. When, however, it does occur in the horse, it manifests the same well known appearances which characterise it in all other animals. It affects the fibrous tissues of joints, the coverings of muscles, tendons, and ligaments, and the valves about the heart and larger vessels, and manifests a peculiar tendency to shift from one part of the body to another, often affecting in succession all the larger joints, at one time chiefly located in the neck, and at another in the back and loins, while in many of its more acute attacks it appears to involve almost every portion of fibrous and fibro-serous tissue throughout the body. In all its varied types it exhibits a full, strong, hard, and unyielding pulse, caused by the inflammation involving the serous and fibro-serous tissues of the heart and circulating vessels. During its existence various excrementitious matters accumulate in the blood, and its fibrinous constituents are found to exceed their normal proportions, as indicated by the production of the buffy coat on the blood. In severe or badly treated cases the inflammation is very apt to be transferred from the joints and muscles to the heart and its investing membrane, and it is the danger of this change in the seat of the disease that renders rheumatism so formidable, and often so fatal. It always leaves the parts affected so altered as to be extremely predisposed to subsequent attacks; and it is more than probable that this altered condition is reproduced in the progeny of rheumatic subjects, and constitutes in them the inherent tendency to the disease.

Horses sometimes suffer from rheumatic inflammation in the fibrous sheathing envelopes of the muscles of the neck, constituting what is popularly known as the *chords*. When thus affected the animal is very stiff, remains as much as possible in one position, and is unwilling to bend his neck either to one side or another, or to elevate or depress his head. There is always more or less fever, with a strong full pulse. Sometimes, as in lumbago in the human subject, it affects the muscles of the back and loins, causing stiffness, tenderness, and pain, which are especially evinced on moving or turning the animal. These rheumatic affections are very readily produced in predisposed subjects by exposure to rain and cold, especially when accompanied by over-heating or exhaustion. Rheumatism sometimes occurs in horses as a prominent symptom of that epizootic affection which usually receives the much-abused title of influenza. In such cases the rheumatism is of a somewhat more sub-acute or chronic character than common, and is accompanied by that low debilitating fever so often the concomitant of epizootic maladies. It usually affects all parts of the body susceptible of the rheumatic inflammation, is attended particularly by those symptoms which indicate disease of the heart and pericardium, as an irregular intermittent pulse, and often terminates fatally by effusions into the pleurae or pericardium, thus causing death by arresting the motions of the heart. As we shall have again to notice rheumatic diseases when speaking of cattle, we leave the subject for the present, and proceed to the scrofulous or strumous inflammation.

The *scrofulous diathesis*, or constitution, is not uncommon among horses. It assumes many degrees of intensity, and predisposes to many diseases. It is most apt to discover itself in horses with narrow chests, large flat sides, weak loins, soft flabby muscular systems, soft thin skins, fine silky hair, large badly proportioned limbs, and large weak joints, and in those in which digestion is often impaired, excretion irregular, and circulation weak and easily accelerated. In an animal affected by scrofula the blood is in an abnormal condition. There is an alteration in the relative quantity and quality of its various constituents, consisting chiefly in a diminution of the red corpuscles, and an excess of fibrine, which is besides in a less elaborated state than usual; tubercular deposits are also found in various parts of the body. This alteration in the healthy quantity and quality of the albuminous ingredients of the blood, and in the integrity of the various tissues, is transmitted from the parent to the offspring; and, in proportion to the amount of deviation from the normal state, constitutes a scrofulous diathesis more or less decided. The diathesis is strikingly hereditary, often affecting many individuals of the same family, often traceable through many generations, and sometimes ascribable to the sire, sometimes to the dam. It is always, however, greatly aggravated (and may be developed *de novo*) by circumstances prejudicial to health—by insufficient food, by ex-

posure to damp and to low temperatures, and, in a marked degree, by "breeding in-and-in." By this system of breeding, any inherent tendency to disease, however slight, is greatly aggravated, and always in a rapidly accelerating ratio in each succeeding generation so long as the faulty system is continued.

The scrofulous diathesis affects various parts of the body, and assumes different forms in different animals, and at different ages in the same animal. It develops itself as rickets, hydrocephalus, *tabes mesenterica*, and pulmonary consumption, and in these, and all its other forms, is alike hereditary.

Rickets, like the other diseases indicative of a scrofulous habit, depends on malnutrition. The bones are defective in earthy constituents, and consequently give way under the weight which they ought to sustain, becoming bent and deformed. Amongst our patients, however, rickets is neither so common nor so serious as in the human subject, and the young animals affected by this complaint generally gain strength and vigor if they get a sufficient nutritive diet, and are otherwise carefully tended.

Hydrocephalus, or water in the head, in one of its forms, is a tuberculous inflammation of the internal serous membranes of the brain. It is ushered in by languor, disordered digestion, irregularity of the bowels, and a falling off in condition. The limbs become weak and tottering; the head is hot and tender, and held in a dependent position; the eyes are impatient of light, and the pupils partially closed; there is more or less fever and an accelerated pulse. These symptoms, indicative of active inflammation, give way, after a variable time, to others significant of effusion and pressure on the brain. All the external perceptions become blunted, and the pulse is slow. As the fluid accumulates, the head enlarges, and the bones become soft and thin. This state of depression usually continues till death. This disease is one of early life; it is rarely met with in animals of more than six months or a year old. As has been already remarked, it is sometimes congenital, and, in such cases, there is usually a great increase in the size of the head, from the amount of the effusion and the soft, yielding nature of the cranial bones. The substance of the brain is found, on examination, to be expanded by the contained fluid, and soft and infiltrated with a thin serosity. The membranes of the brain are much inflamed, coated with lymph, and studded with granules and tubercles, which are also found in other parts of the body, especially in the mesenteric glands, and are in all respects identical with those found in the lungs of consumptive patients. These facts establish the scrofulous nature of the disease, and its close connexion with consumption.

Tabes Mesenterica is more common in foals than is generally supposed: it occurs at various ages, but seldom affects animals more than two years old. The matter of tubercle is deposited in the mesenteric glands; and this, interfering with their functions and preventing the due elaboration of the chyle, speedily causes derangement of digestion, imperfect assimilation, and consequent rapid wasting and death from inanition. Apparent recoveries occasionally take place, the tubercular matter becoming cheesy, hard, and gritty; but as the lungs also are usually diseased, recovery is often only temporary, and the animal by and by dies either of phthisis pulmonalis, or of glanders.

We have noticed that variety of consumption affecting the limbs, or rickets; that variety affecting the contents of the cranial cavity, or hydrocephalus; that variety affecting the abdominal cavity, or *tabes mesenterica*; and have now to notice that variety, perhaps, of all the most common and fatal, and which has its seat in the lungs; this is pulmonary consumption, or *phthisis pulmonalis*. It consists in a deposition of tubercular matter in the lungs; at first soft and cheesy, or gluey and fibrinous, and becoming, after a time, hard and gritty, but always unorganisable. Its symptoms are irritation of the mucous lining of the bronchia and lungs, as evinced by cough; occasional febrile symptoms, wasting, and debility, which, in bad cases, sets in early, and is so excessive as speedily to destroy life. We have treated very briefly of *tabes mesenterica* and of consumption in horses, because we shall have to return to them when speaking of the hereditary diseases of cattle, in which they are more common than in the horse.

These are the most common forms in which a scrofulous diathesis shows itself, but there are other irregular forms which it also sometimes assumes. In early life especially, we recognise it in intractable swellings of the joints, from

unhealthy inflammation of their synovial fringes, and in accumulations of pus in various parts of the body. These two forms are often met with in different individuals of the same stock, and are always notoriously hereditary. I know at present of two entire horses, both of fine symmetry and apparently sound and vigorous health and constitution, that have for several seasons got stock, many of which have died within a short time after birth from these complaints, and others have long continued sick and ailing. A pony, in sound health, and which had previously reared a strong and vigorous foal, got by another sire, had a foal to one of these horses. From birth it was weak on its legs, and died before it was three weeks old: an immense accumulation of pus was found underneath the psoae muscles, and all the larger joints were inflamed especially the stifle joints. In the succeeding year the same pony had another foal to the same horse, which again showed similar symptoms, and died about the same time after birth. Again, in the next year the pony was put to another horse, and had a foal which remained perfectly free from disease. This case, we think, distinctly proves the transmission by the sire of a serofulous diathesis. The disease of the foals could not depend upon accidental circumstances, for a similar affection occurred in many of the stock got for several seasons by the same horse. The disease was in this instance ascribable to the sire, and not to the dam,—which is obvious from the fact, that the same mare produced and reared a healthy foal both before and after she had the two diseased ones. This last observation must not, however, be misconstrued, as leading to the belief that diseases are inherited from the male alone; on the contrary, form, disposition, and tendency to disease, all depend quite as often on the mother as on the sire.

But a serofulous diathesis, besides appearing in the forms above noticed, also constitutes a powerful predisposition to many diseases. In serofulous subjects sore shins often occur—a common complaint in many racing studs, appearing chiefly in young and rapidly-growing animals, depending on the excessive exertions to which they are subject in training, consisting of inflammation of the periosteum investing the cannon bones, especially of the hind limbs, and, when neglected, often running on to caries and necrosis.

From their weak and unsound constitution, horses of a serofulous diathesis are unusually prone to *glanders* and *farcy*—two forms of a disease peculiar (at least as an original disease) to the equine species. As has been already remarked, it is characterised by a specific unhealthy inflammation, identical in all important characters with the syphilitic inflammation in man. From the dire and loathsome nature of glanders, and the terror in which it is held, animals affected by it are never used for breeding, so that we have little opportunity of judging of its hereditary nature. There is no evidence (so far as I know) which proves it to be directly hereditary, but there is no doubt that the progeny of a glandered horse would exhibit an unusually strong tendency to the disease. Its ordinary predisposing causes are, many of them, hereditary: it is very prone to attack animals of a weak or vitiated constitution. It is emphatically the disease which cuts off all horses which have had their vital energies reduced below the healthy standard, either by inherent or acquired causes. Glanders is also sometimes caused by inoculation; is frequently produced in healthy subjects by mismanagement, as by insufficient food, want of shelter, and overwork; and often supervenes on bad attacks of influenza, strangles, diabetes, and other diseases which debilitate the system, or impair the integrity of any of its more important parts. These causes appear to possess the power of engendering in the constitution of the horse a peculiar poison, which, as it reproduces itself, and spreads to all parts of the body, gives rise to the characteristic symptoms of glanders, causing, sooner or later, a breaking up of the system, and a fatal prostration of the vital powers. This poison produces in the blood abnormal changes, which vitiate that fluid, and unfit it for healthy nutrition. From the irritant action of the morbid fluids passing through them, the lymphatic glands and vessels become inflamed, and lymph is deposited. This, however, being of an unhealthy nature, soon runs on to softening, which extends to the skin overlying the part, and ulcerating farcy-buds are formed. On the surface of the more vascular mucous membranes effusions of tubercular matter are also poured out; these take on an unhealthy inflammation, and degenerate into chancreous ulcers, which may generally be seen on the mucous membrane of the nostrils in most bad cases of glanders.

These are the most common serofulous diseases of horses;

but an animal of the serofulous diathesis, besides being specially subject to these, is little able to withstand ordinary morbid causes, and hence is also unusually liable to many ordinary diseases; in such a subject, too, disease is very apt to be severe and complicated, and to be acted on tardily and imperfectly by all remedies.

A New Theory of the Potatoe Disease and its Remedy.

The following article from the London Farmers' Magazine possesses very great interest, and would seem to have solved the very difficult question of the origin of the potatoe disease, and at the same time demonstrated the principal operation in the destruction of all kinds of engrafted fruits after a certain lapse of time. But with all its plausibility, there are certain facts which seem to militate against the conclusions deduced by Mr. Ferguson, one or two of which we shall mention. In the first place the potatoe disease, where it has been very prevalent, has shown little, if any, difference as to the kind of seed used, all crops having been attacked by it, even those from new seedlings. Sometimes the potatoes in one spot would suffer, whilst others from similar seed would, for some reasons connected with the locality, exposure, or stage of growth, escape the disease. This would leave us to infer that the malign influence existed in the atmosphere, rather than in the condition of the potatoe, induced by its age reckoned from the perfection of its germ. Notwithstanding these objections we regard the article as extremely suggestive and of the highest interest. G. E.

Philadelphia, Feb. 4, 1854.

"The potatoe plant is only an annual, empowered by God with two modes of reproduction. The one, like the oak tree, lives only for years; the other, like the acorn, liveth forever. Both reproductions are deposits from the plant, different in chemical properties; "*live and die*" independent of each other, with the plant providing for, but independent of both.

"Here (exhibiting a potatoe stalk) is the plant. This stalk, with its small fibres, is the annual. These eight apples upon the top possess each from three hundred to three hundred and twenty seeds; each seed has the germ of a plant with seed lobes, which perform the same office to the germ that the yolk of an egg does to the germ of a bird, supplying it with nutriment until all its parts are perfected by germination to supply itself.

"Hence the seed of the potatoe apple is, like the acorn of the oak, the seed in the apple of the tree, or the egg of a hen. Those eight potatoes at the bottom of the stalk possess each a quantity of eyes; each eye possesses the same property for a time that the seed or egg of a hen does; but the potatoe, like the tree and hen, becomes aged and past bearing; the oak lives after it ceases to bear, as do also the apple tree and the hen, and so does also the potatoe. But the oak, the apple tree, and the hen die from age, and why not also the potatoe? Has nature made it an exception?

"Besides, like the oak, the apple tree, and hen, the potatoe has a graduating scale of ascending and descending life. Here (exhibiting a potatoe stalk) is a plant grown direct from the seed. Observe the potatoes are small, like marbles. This stalk blossomed, but had not strength enough to form an apple. Here (exhibiting a large stalk) is another which is one year older. Observe the difference in the bulk of the tubers which are produced. They may be compared to a small egg increasing. This stalk also blossomed, and potatoes thus grown from seed continue to blossom up to five years, and then first begin to form apples. Here (exhibiting a stalk) is a plant six years old which bore an apple; consequently, I call the parent of this apple a potatoe; the plants before it not being able to perform the functions of a potatoe, I call germs, Nos. 1, 2, 3, and so on, ascending according to their age.

"Now, to get at the descending germ, let us take this lumper (now exhibited). I can trace the history of this kind of potatoe back to the year 1818; and I am told that, from

1825 to 1835, it was so charged with vitality that it would grow without manure in any soil, of large size, and producing one hundred and sixty barrels to the acre, but of a quality more fit for cattle than for man. Then was the time to take seeds from its apples, and have the young rising into strength for cattle, and the old losing strength, but becoming more dry and floury, for man's use.

"This lumper, once the prince of potatoes, like its great progenitors, the barbers, kerkippins, white Turks, red Turks, slipper potatoe, peeler potatoe of Connaught, black-bull of Kerry, and a host of others, each in their turn ruled supreme. They are now gone. Here is the lumper, the cup, English red, and Irish apple; look at them. The red, 12 years ago, produced 160 barrels to the acre; at present, in the best land, it produces only 60 barrels; lumpers 40 barrels, and cups 30 barrels; and, like the ascending germs, they now blossom, but cannot grow apples; consequently all these kinds of potatoes enumerated may be called 'descending germs.' See this diagram, showing the life of the lumper. (Two ingenious diagrams, which, of course, we have no means of representing, were here exhibited and explained by the Rev. Mr. Porter.)

"The first diagram shows the potatoe existing for thirty-four years in three states of being; first as an ascending germ in blossom for five years; a potatoe, with apples, for nineteen years; and there not being any apples seen upon the stalks for the last ten years, they then become descending germs, unable now to give any produce on mountain land where they formerly grew. The law laid down in this diagram rules every potatoe, and the same law guides its seed; thus we find the plant to grow apples for nineteen years.

"The second diagram shows the plant ascending in vitality for ten years, its longest day, and green from five to seven months, in proportion to its age; then descending, losing its vitality, from its tenth to its nineteenth year, at which period it remains green only five months, and produces no seed. Thus the seed supplied by the parent plant at its longest period must of necessity be best and strongest. The descending germ of the tenth year will remain green only three months, and with little produce. Hence, seed from the plant at ten years is perfect; the other only in proportion to its place in the diagram; consequently, I fear it is hardly possible to procure good seed now, and I question if ever perfect seed has been sown, except by fortunate accident; the belief hitherto entertained being, that the seed was only to give variety of kinds.

The plant at transplanting is as perfect in all its parts as the oak, the apple tree, or the female bird from the egg. The root performs the same functions to the plant that the stomach does to the animal—absorbs juices from the earth and transmits them through one set of vessels to the leaves, which are a continuation and extension of the same vessels and matter. These extend their surface for absorption and transmission of air and moisture, assimilate the juices, and return them through another set of vessels to nourish and enlarge the various parts of the plant. Thus, the leaves perform the same functions as the lungs of the animal, besides giving shade to the vegetable. These truths point out the true mode of cultivating ascending and descending germs, and also the potatoe. The plant from a perfect potatoe lives seven months, perfecting its fruit before it dies. The plant from a descending germ lives only from five to three months, unable at either stage to perfect its fruit. Therefore, when the plant dies, the fruit not being ripe, continues to absorb the decomposing matter in the leaves and vessels until these vessels cease. Consequently, when we see the leaves getting spotted and black, and emitting an offensive smell from decomposing matter, we should at once dig the crop to save what potatoes exist, and turn the land to some useful purpose. This is what we, in our wisdom, call the 'incomprehensible potatoe disease,' produced, you will observe, by our own neglect of the immutable laws of God and nature.

The largest potatoe, being first from the plant, and consequently longer in the world than the small one, is best for seed. This (producing a tuber) is a potatoe with twelve eyes, consequently containing twelve plants. If I set it whole, I put twelve plants to live upon the land of one; in other words, I put twelve cows to live upon one cow's grass. Therefore, scoop out the eyes of the large potatoes for seed, and use the rest. Let seed potatoes be the largest, and left in the light until they become green. They are thus best for seed, but not so good for the table, the oxygen having

escaped. To keep potatoes for use, turf char is best; it will keep them perfect, though not a month old.

"To give an idea how to manage potatoe seed for sale or use: Hang up the apples in the barn or other out-house, in the light, until they become white, soft and pulpy, like a ripe gooseberry; then press out the seed into water, and throw away the hull; wash the glutinous matter from the seed by change of water, and dry it in the sun; or take a pulpy apple and press out the seed between the folds of blotting paper; the paper absorbs all the glutinous matter, and you will find from 300 to 320 seeds (a sufficient quantity for one farmer). Another mode: Cover the apples in sand, which will absorb the hull and glutinous matter; and in spring sow sand and seed together in a hot-bed, which is simply twelve inches of stable manure covered with two inches of earth. I transplanted 800 plants from a box four feet long by one foot wide, when the plants were from four to six inches above the earth, to drill eighteen inches apart, and sixteen inches between each plant. March or April is the best time for transplanting, and drills should be adopted in every instance in preference to lazy beds, because the latter retain rain and grow weeds, which prevent the circulation of air, and cannot be easily got at. The juices of the potatoe sleep during the winter and awake in the spring; therefore, do not plant before February. The experiments stated in this paper can be tried and tested equally by the learned sage or unlettered peasant, for one shilling.

"This paper demonstrates, from the leaf being the lung of the plant, that the potatoe cannot possibly grow after the leaf dies, except we suppose it to grow upon decomposing matter; and the diagrams demonstrate that there never was any disease in the plant or potatoe. Why and whence are these various antidotes against the "mysterious, incomprehensible potatoe disease," leading the peasantry of these realms to lose their land, manure and labor, year after year? A Frenchman tells us to insert a pea in each to absorb the superabundant moisture—the cause of blight. An Englishman bids us plant in tan; a Scotchman tells us to plant in peat char, because, having ninety-six per cent. of carbon, it is, like the pea and tan, a certain cure. The Royal Agricultural Society of Ireland has a gentleman that professes to take the sting or disease out of the potatoe by some mechanical charm; and there is another gentleman who undertakes to extract the sting from the earth! but neither of them tell *hon.*

These, like other varieties of mysterious cures and causes whispered from man to man, stagger the senses, and make reason reel. Therefore, in order that the truth of my views, and the virtues of these charmers may be fully tested, I have lodged £500 in the Provincial Bank, which I now freely offer to them and the world, if they bring to this society, within three years, the following potatoes, which have been the principal support of the peasantry of this country for the last thirty-four years—namely, the old Irish apple, the cup, the English red, and the lumper—in the same strength that I show this stalk, with apples upon the top, potatoes at bottom, and remaining green from 12th April to 12th October.

"The potatoes now exhibited (and which are open to inspection until seed time) show ten distinct varieties, ranging from one to six years old; these have never been in the world before, and their existence demonstrates that the power to grow them existed previous to, and since the blight of 1846.

Orchard Manuring.

MESSRS. EDITORS:—In an early number of the "Country Gentleman," a subscriber inquires for the best method of manuring an orchard, situated upon a portion of land so elevated as to render the cartage of barnyard manure too expensive to be profitable. Having seen no suggestions that correspond exactly with our notions of expediency in such cases, we are induced to submit the following. The plan is, perhaps, equally advisable in situations of easy access to the common method of manuring.

We believe every plot of land contains within itself the elements of fertility. The richest soils in our country have become so by the decay of vegetable matter, originating from the very soils its decomposition enriches. If land in a state of nature grows rich by retaining the products of its own fertility, then nature can be imitated, and every farm, not absolutely sterile, made of any desirable degree of richness by plowing in green crops.

When green manuring is practiced, clover is the crop gen-

erally preferred; but where constant cultivation is desirable, as in orchard, *rye* possesses some advantages.

A luxuriant growth of *rye*, harrowed down and plowed in, when just commencing to head, furnishes a large amount of valuable manure; and when sown early, say late in July, the growing crop furnishes a clean, green surface, very desirable for the harvesting of later fruits, and affords a larger supply of late fall feed, such animals as will not materially injure the fruit trees.

It is difficult to say what point of fertility or productiveness may not be reached by a repetition of this process.

It may be objected that this method is expensive,—the same labor being required to produce the crop for manure as for harvesting.

But in reply, it may be said, that *cultivation without cropping* is absolutely essential to large profits in fruit raising, and the above plan of manuring incurs no labor or expense aside from that necessary to good tillage, save the small outlay for seed, which cannot exceed eight or ten shillings per acre; an expense much less than that of any other method of equally efficient manuring.

In seasons of non productiveness, or rather of failure of fruit crops, the *rye* crop may be allowed to stand and mature, and the product of every season may be one of profit. Yours, &c., O. C. GIBBS, M. D., Perry, Ohio.—*Granite Farmer*.

Improved Superphosphate of Lime.

This article is manufactured in New York by Frederick McCready, 351 Broadway. Many hundred pounds of this compound have been sold the past year to farmers and others. Prof. MAPES, Editor of the Working Farmer, invented the article some five or six years ago, and has used it exclusively on his farm with very favorable results.

Meeting with a farmer about a year ago, who had been an eye witness to its fertilizing power on Prof. Mapes' farm, I was induced to try it myself. With your request, Mr. Editor and others, I give you the results. It may be proper to say, that I had two objects in view: first, to test its value as a manure, and second, its relative value compared with guano, the price of both articles being the same. On 480 feet of ground, of uniform character, (that had been in Libby beans the year before—of a black mellow loam,) I planted 320 hills of potatoes with 320 potatoes of equal size, that is, one potatoe in a hill, uncut, 160 of those hills being manured with one table spoonful of powdered guano, the other 160 with the same amount of improved superphosphate of lime. They received no attention through the season, except to keep the weeds down, and the surface level. The potatoes were dug in August, (being an early kind.) The 160 hills that received the Im. Sup. of Lime produced $1\frac{1}{2}$ bushels over the guanoed half, the potatoes being of a more uniform size. For beets or turnips I can see no difference between the two applications. On gooseberries, which I have heretofore cultivated to little purpose, the fruit all, or nearly all, falling off when about half or two-thirds grown, I applied about a gill of the lime to each bush, working it into the soil, the result was I had a most luxuriant growth of gooseberries, and they staid on until picked for the market. Here also I see no difference between the lime and guano as I dressed a part of the gooseberries with guano.

On peas, its effect was very perceptible, as compared with guano or a stable compost. On my carrots, the experiment partly failed. That part of my carrot field which received the lime being so dry, but a small part of the seed vegetated, those that came up did remarkably well, many of them girtling 18 or 20 inches.

But its most marked effect was upon cabbages, the ground was plowed twice, harrowed and furrowed out as for corn, the plants set in the common way, with half a gill applied at the next harrowing, making a gill to each cabbage.

On grass, I applied it without any visible effect—sowed it on in May, broadcast, at the rate of about 220 pounds per acre, and I got (what the paddy told his son he would get if he fell into the water) a deal of a ducking, for it was in the midst of a rain storm, so that its failure cannot be attributed to a want of moisture.

I think, Mr. Editor, you was at my place last season, and had pointed out to you the different crops then growing under the influence of the improved superphosphate of lime, and also guano.

Many scientific and practical men have come to the conclusion that for most crops that mature their seeds, guano is too soluble, too quick, and limited, to carry the plant suc-

cessfully through the latter part of the season. On the contrary, phosphate of lime (bone dust) is much less volatile, the two principal elements of bone earth being phosphoric acid and lime, two substances absolutely important to plants in the forming of their seeds. They, however, possess no direct power of forming the vegetable structure of the plant, and this guano possesses it in a very high degree. Hence by combining guano with bone dust, the volatile salts of the guano are changed into the sulphates, consequently they will last or remain in the soil until taken up by the plants.

All the volatile salts being changed, the seeds are not injured by coming in immediate contact, as is the case with guano. The sulphates, being moderately soluble, are able to impart the needed nourishment to the plant.—B. SHARTUCK, Bedford, March 4, 1854.—[*Granite Farmer*.]

Sawdust for Orchards.

A year last fall I hauled a load of old rotten sawdust and threw it around my young apple trees. My neighbor over the way is one of those characters who plod on in the same old track that his father and grandfather did, believing that they knew all, and more too. My neighbor said if I put sawdust around my trees I would surely kill them. He said he put manure around some of his trees, and killed them. I told him I would risk it "any how."

I put fresh stable manure around one row and sawdust around the next; around another row I put leached ashes; and the remainder of the orchard I manured with well rotted barnyard manure, and in the spring spread it and well planted the ground with corn and potatoes. The result was many trees grew very luxuriantly, but the trees where the sawdust was grew the best, the bark being smoother and the trees had a healthier appearance. I will also state that part of the orchard planted to potatoes grew greatly better than that part planted in corn. The sod was clay loam.—*Ex.*

How to Mend a Chain Pump.

Chain pumps are very much in use at present. They are very good pumps, especially in wells that are not protected much from the frost, as they seldom get frozen so as to prevent their operating unless the water in the well itself freezes. Sometimes, however, the chain breaks or parts, and then it has been thought necessary to take up the whole pump in order to mend and replace it. A friend told us, the other day, a method which he has adopted in such cases with perfect success. The chain with its plugs, you know, is an endless one, going over a pulley at the top, down outside the pump into the water in the well; then over a pulley under the water at the lower end of the pump tube, thence up the tube. Now if the chain parts, it is difficult getting one end over the lower pulley and up to other side, unless you take up the pump to do it.

Take a strong string of sufficient length to reach from the bottom of the lower pulley to the surface of the water in the well; tie a cork to one end of it and tie the other end to the chain. Then winding the string round the cork put it into the tube, and let the chain follow it down. As soon as it gets down under the pulley, the cork will rise to the top of the water in the well, from which it may be hooked up. The chain will be hauled up with the string, and the two ends may then be fastened together in the usual way.—*Maine Farmer*.

Soils for Apples.

1st. On what kind of soil will the Swaar apple succeed best?

2d. On what do the Esopus Spitzenburg?

3d. On what do the Roxbury Russet?

4th. Is the Melon apple equal to any of the above varieties for the desert or domestic use, is it productive—is the fruit fair or imperfect?

My reason for making the above inquiries is, the soil of my orchard varies from a dry gravelly soil to a strong clay loam, and I wish to plant in each kind the variety most suitable for it. Respectfully yours,

N. S. ROZ.

A very extensive observation is needed to pronounce upon the right kind of soil required for certain varieties of the apple, there are so many causes to influence success, that it is difficult to arrive at a general rule applicable everywhere. Within our own limited experience, however, we have found the Swaar to do much the best on strong rich, rather heavy soil, and the Roxbury Russet rather best on those of lighter character. Not much difference has been observed relative

to the Esopus Spitzenburg. The great thing, however, for success, and nearly always much more important than all else, is *good, rich, careful cultivation*, on whatever soil the trees may stand. The Melon apple is inferior to none as a table—but it is a slow grower, and only moderately fair and productive.—*Country Gentleman*.

Principles of Breeding, or Crossing so as to Obtain a Fixity of Type.

In a recent number of the Journal of the Royal Agricultural Society of England, we find some original views on the above subject in an essay by M. MALINGIE-NOUËL, President of the Agricultural Society of Loire et Cher in France, which are well worthy the attention of those wishing to improve their stock.

To get up and establish new characteristics in a breed of animals is a work of anxious years of effort, requiring the very nicest observation and experiment. A single false step may undo the work of years, and there is no school in which skill and success is attainable but in that of actual individual experience. It can neither be taught in books nor be acquired from another, and as our author has remarked, can only be executed by a man like Richard Goord, the founder of the new Kent breed of sheep, who commences when very young, and lives, like him, eighty-six years.

There is one point in crossing animals on which he lays great stress, and is so obvious as to excite wonder that it has been lost sight of, viz: "that the principle of antiquity or purity of race is what has most influence on crosses," or, in other words, that where fixity of type has resulted as a consequence of great antiquity of the breed, the impress in the offspring will be stronger from that side than where the breed is comparatively of recent origin. A farmer wishing to secure for his herd the fine milking qualities of the Alderney, would be far more likely to secure his object by breeding his Alderney bull to a common cow, or one of no distinct breed, than if he was to select a Devon cow, or even a pure Durham. The common cow having no fixed and determined characteristics of form or quality to counteract the impress of the type, the influence of the mother on the offspring would be weaker than that of the father. He illustrates the principle by the motion of a projectile, say a common ball, whose velocity is obtained not merely in proportion to the propelling force, but also to the resistance of the medium (air or water for example) through which the body is driven. If there were no resistance on the side of the mother, the complete effect would be realized by the reproduction of the improving type, and the influence of the sire would be stronger, the purer and more ancient the race might be.

These principles he has applied most successfully to improve the French breeds of sheep, which for various causes had greatly deteriorated, and as they were of great antiquity with very strongly developed character, supposing the above principles to be correct, his entire success is most remarkable. In reference to it he says: "It appeared then that in order to untie the Gordian knot whose threads I have traced, inasmuch as one could not increase the purity and antiquity of the blood of the rams (I purposely repeat the first principles of the problem to be solved), one must diminish the resisting power, namely the purity and antiquity of the ewes. With a view to this new experiment, one must procure English

rams of the purest and most ancient race, and unite with them French ewes of modern breeds, or rather of mixed blood forming no distinct breed at all. It is easier than one might have supposed to combine these conditions. On the one hand, I selected some of the finest rams of the New Kent breed, regenerated by Goord. On the other hand, we find in France many border counties lying between distinct breeds, in which district it is easy to find flocks participating in the two neighboring races. Thus, on the borders of Berry and La Sologne one meets with flocks originally sprung from a mixture of the two distinct races that are established in those two provinces. Among these then I chose such animals as seemed least defective, approaching, in fact, the nearest to, or rather departing the least from, the form which I wished ultimately to produce. These I united with animals of another breed, picking out the best I could find on the borders of La Beauce and Touraine, which blended the Tourangelle and native Merino blood of those other two districts. From this mixture was obtained an offspring combining the four races of Berry, Sologne, Touraine, and Merino, without decided character, without fixity, with little intrinsic merit certainly, but possessing the advantage of being used to our climate and management, and bringing to bear on the new breed to be formed, an influence almost annihilated by the multiplicity of its component elements.

"Now, what happens when one puts such mixed-blood ewes to a pure New Kent ram? One obtains a lamb containing fifty hundredths of the purest and most ancient English blood, with twelve and a half hundredths of four different French races, which are individually lost in the preponderance of English blood, and disappear almost entirely, leaving the improving type in the ascendant. The influence, in fact, of this type was so decided and so predominant, that all the lambs produced strikingly resembled each other, and even Englishmen took them for animals of their own country. But, what was still more decisive, when these young ewes and rams were put together, they produced lambs closely resembling themselves, without any marked return to the features of the old French races from which the grandmother ewes were derived. Some slight traces only might perhaps be detected here and there by an experienced eye. Even these, however, soon disappeared, such animals as showed them being carefully weeded out of the breeding flock. This may certainly be called "*fixing a breed*," when it becomes every year more capable of reproducing itself with uniform and marked features. Such was my secret, which, however, has been made no secret at all, but has been declared from the first in my entries at the shows of Poissy and Versailles. Such is the origin of the La Charmoise breed of sheep.

"We have already seen how important it is that you should not infuse into a new breed more than fifty per cent. of English blood, if you would preserve the French constitution, which alone suits the circumstances in which they have to pass their lives. The Charmoise breed not exceeding that proportion does retain the hardness of a pure French race: the lambs are reared as easily as those of any French breed, getting over the summer just as easily; neither then nor later do they suffer more than our native breeds from heat or from drought.

"The mixed-blood mothers had been formed from breeds in general small, and possessing the usual qualities of small breeds, delicacy of shape, smallness of the head and the bony structure, temperance as to food. The Merinoes alone had not these valuable qualities, but they entered in the proportion of 25 per cent. only into the mothers, and consequently of 12½ per cent. only into the offspring. Their disadvantage, too, in these respects was compensated by their influence on the fleece.

"I may here remark that, in founding a breed, it is far better to choose ewes from small breeds, with the qualities already mentioned, than from breeds that are strongly timbered, bony, coarse, greedy, like those of northern and western France, which I tried myself, to my own heavy loss. Accordingly as fine or coarse ewes are used, so in proportion do the offspring show that coarse or fine character, difficult to describe for a writer, but easy to perceive for a connoisseur."

The Charmoise breed of sheep have taken prizes whenever they have been shown at Versailles or Poissy. Ph. Pusey, who translated the essay from the French, concludes by saying that, as a farther confirmation of the truth of these views, he was informed by the late Lord Spencer that he had observed that the worse bred the female is, the more likely is the offspring to resemble a well bred sire, and that he should practically prefer a cow of no breed to an indifferent pure bred cow for a good thorough bred bull. The principle, however, has never been so thoroughly carried out as in the above experiments at La Charmoise, which throws some light on one of the most mysterious of all physiological problems, the renewal of the features of parents in the reproduction of animals.

WORK FOR THE MONTH.

FARM.—One of the most profitable crops of the season—Indian corn—now requires the special attention of the farmer. The ground should be made in good order. If it has been plowed deeply, and the sod well turned under, a thorough harrowing and pulverization of the soil is the next requisite. Farmers should remember that if the ground is not put in good order before planting, it is rarely made so after. The time of planting depends most upon the season. We have known corn planted during the last week in April in some seasons to do well, while in others the very early planted received a back-set from subsequent cold, which placed it behind that planted two and even three weeks later. Corn is often severely affected by the drouth in the latter part of summer, but both the early and late planted are alike subject to this, one escaping the one season and suffering the next. Some farmers distinguished for their success in raising corn, have adopted the old Indian rule of planting when the dog wood blooms. This usually occurs between the 1st and 15th of last month. Unless the ground is unusually rich, some special manure applied to the hill is of great service to the young plant in hastening its early growth. Spent ashes, plaster, mild compost, &c., richly repay the cost of their application. While the corn is young, grass often gets root in the hills that is afterwards difficult to extirpate. The corn field should be kept "clean" and mellow for the start. The

principal crop of potatoes may be planted this month. By planting at three or four periods, of a week or ten days apart, the farmer is almost certain of a portion of his crop "hitting" the season, as one or the other usually escapes the drouth which so often impairs the crop. Where pasture is not likely to be abundant, ground should be prepared to sow corn for fodder. This crop cut in its green state is greatly relished by cattle, and is an invaluable substitute for scant pasture. Avoid turning stock too soon to pasture fields. Sow one bushel of plaster to the acre on all grass fields. Inspect fences all around the farm, and make them secure against the stock. Clean out and whitewash cellars, remove potatoes to barn floor, or other dry place, to retard their sprouting. Cover manure in barnyard from action of sun and rains, or compost it with alternate layers of soil if not already done. Watch the stock on rank pasture, every morning, to guard against hoven, which may be quickly relieved by hay rope, drawn tightly in the mouth and extending back of the horns. The motion of the jaws, thus produced, liberates the gas in the stomach.

FRUIT ORCHARD.—Finish planting fruit trees, strawberries, raspberries, grape vines, &c., as soon as possible. Wash the bark of newly planted trees with a mixture of soft soap and weak lye—equal parts—to prevent their becoming bark bound. Trees in blossom against walls or trellises, should be protected against late frosts by covering with sheets, or shading with evergreen boughs to keep off the sun's rays. Destroy webs and larvæ of insects. Mulch the ground under gooseberries with coarse hay or litter, and sprinkle salt. Mulch raspberries and strawberries with spent tan bark. Shorten in raspberry canes one-third, and dig in manure. Apply salt to quince trees. Caterpillars may be found close to body and limbs of trees morning and evening, and before dew is off in the morning may be readily destroyed with a brush or swab affixed to a pole. Pyramidal trees should be headed back, and useless shoots pruned away. Renew with fresh manuring grape vine borders. Destroy ants with boiling water poured into their holes.

VEGETABLE GARDEN.—Plant and sow such seeds as were omitted last month. Thin out early plantings of beets, carrots, parsnips, salsify, &c., and transplant from frames and warm borders tomatoes, egg plants, pepper and lettuce. Those tender of frost should be reserved till last of month. Sow peas for succession crops at least twice in this month. Plant bush and pole beans, the latter should have the poles set in first, and the beans planted around them. The ground being cleared of early crops of radishes, spinach, &c., should be prepared for beets, carrots and cabbages. Keep the ground free from weeds, and stir frequently with the hoe. Fine pulverization and frequent stirring of soil are indispensable to good gardening. Plant cucumbers, melons and squashes in open ground towards last of month. Sow a few turnips for early crop, so as to get them of good size before heat of summer. Draw earth up to stems of cauliflowers, and water in dry weather. Finish sowing seed of all kinds of pot and medicinal herbs. Sprinkle tobacco dust, unbleached ashes, or quick lime, every morning on such plants as are being injured by insects, till they are destroyed.

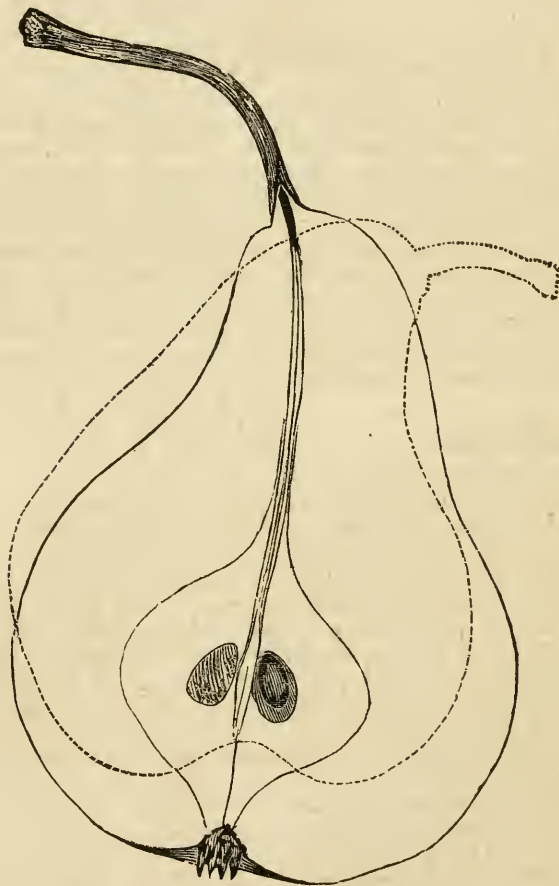
FLOWER GARDEN—All such work as digging flower

garden, laying sod, planting box edging, should be concluded the early part of this month. Grass plots will soon require mowing, which should be evenly and neatly done, at least once a month from May till October. It requires considerable practice to enable one to mow short grass as it should be. Continue to plant flower seeds according to the directions given last month. Annuals that have been forwarded under frames, should have air admitted to them freely, and after the middle of the month finally transplanted to where they are to bloom. Roses that have been kept under glass may now be planted out; also, petunias, verbenas, salvias, heliotrope,

and scarlet geraniums. Plant dahlia roots, but those which have been grown under glass, should not be set out till the latter part of the month. Plant tuberoses, gladiolus and tiger flower roots. Plants that have been wintered in cellars should be brought out now. If they require re-potting, do it immediately. If the pots or tubs are as large as desired, take the plants out and reduce the roots considerably, and shake the old soil well out of them, re-pot with good fresh soil. Oleanders, pomegranates and myrtles do well if planted out in good rich ground, to be taken up in the fall.

CHOICE FRUITS.

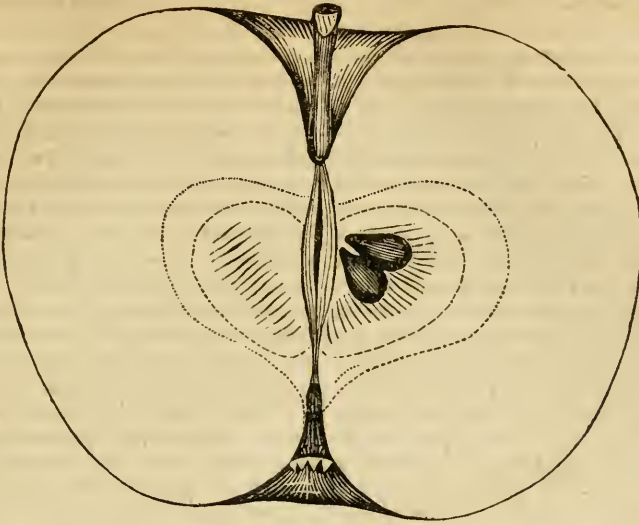
We have the pleasure of here presenting our readers with engravings of some choice fruit, represented as cut in sections. These may be relied upon as accurate drawings :



Beurre Bosc.

A foreign variety raised in 1807 by Van Mons. It is an early annual, and productive bearer on the pear roots, and should have a place in the smallest collection. Tree, vigorous, with long brownish olive shoots straggling or diverging. The fruit varies some in size and form, as see our checked outline in engraving, but it is always fair and smooth.

Fruit, large, obovate, acute pyriform; color, dark yellow, nearly covered, dotted and marbled with cinnamon russet, slight brownish red in sun; stem, usually long, slender; calyx, medium segments partially erect; basin, round, shallow, sometimes a little uneven; core, small; seeds, blackish; flesh, white, melting, juicy, sweet, perfumed. Season, October, or last of September.

**Belmont.**

American. By some stated to have originated in Virginia, by others in Pennsylvania, and, on the authority of Prof. Kirtland, Mr. Downing, in his first edition of "Fruits and Fruit Trees," made it synonymous with the "Warren" of Cox. As this is yet uncertain, we adopt the name by which the fruit is most largely known.

Tree, healthy, vigorous, spreading, wood yellowish, good bearer, does not succeed on the alluvial soils of the West, but on all high, warm, or limestone soils does finely, and makes a large tree.

Size, medium to large; form, irregular, usually roundish, sometimes oblong rounded. South it grows very large, and also West, on new rich soils in Wisconsin; but grown South its delicacy, fine grain and flavor are lost. Skin, thin, smooth, glossy or oily; color, rich clear light yellow; at South with a few dark brown specks, and North with a clear vermillion red cheek, with carmine spots; South slight russet marblings, and much of mould or fungus; stem, medium length, projecting slightly beyond the surface, always slender; calyx, varying from small and close to open and reflexed; basin, from shallow to rather deep, always furrowed; flesh, yellowish white, fine grained, very tender, juicy, sprightly, sub-acid; core, rather large; seeds, ovate, pointed, abundant, brownish red. Season, November to February.

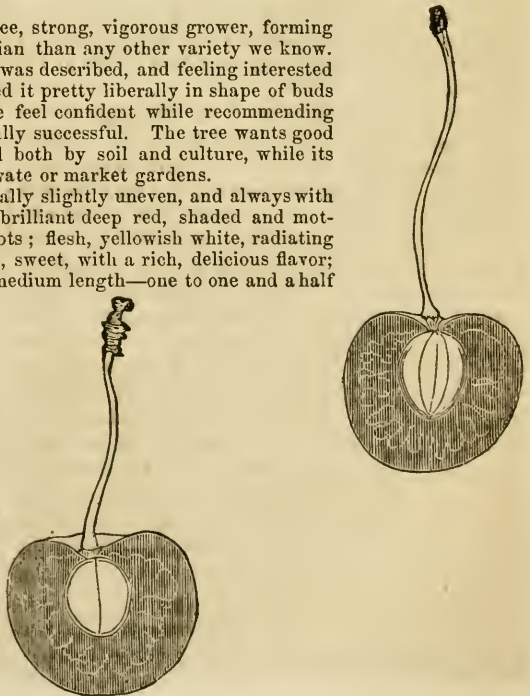
Rockport.

Raised by Prof. Kirtland in 1842; gavelly loam. Tree, strong, vigorous grower, forming a very upright habit, more resembling the Black Tartarian than any other variety we know. It is one of the first, of Prof. Kirtland's seedlings, that was described, and feeling interested in its success, in various parts of the State we distributed it pretty liberally in shape of buds and grafts. It has now been fruited extensively, and we feel confident while recommending this, that other varieties of the same origin will be equally successful. The tree wants good culture, and its period of maturity is materially altered both by soil and culture, while its character appears unchanged. Valuable, either for private or market gardens.

Fruit, large, round, obtuse heart shape, surface generally slightly uneven, and always with a knobby or swollen projection on one side; color, clear brilliant deep red, shaded and mottled on a pale amber yellow, with occasional carmine spots; flesh, yellowish white, radiating lines irregular, a yellow tinge around the pit, firm, juicy, sweet, with a rich, delicious flavor; pit, oval, regular and without ridges; stem, usually of medium length—one to one and a half inches. Season, 20th to last of June.

Kenicott.

Raised by Prof. Kirtland, and named after the most enthusiastic horticulturist in the West, J. A. Kennicott, M. D., of Northfield, Ill. Tree, vigorous, hardy, spreading, very productive. Fruit, large, oval heart shape, compressed; suture, shallow, half round; color, amber yellow, mottled and much overspread with rich bright, clear, glossy red; flesh, yellowish white, firm, juicy, rich and sweet; pit, below medium size, smooth and regular; stem, short in cavity, with bold surrounding projections. Season, 8th to 16th July. As a market fruit, the time of ripening, size and beauty of this variety will make it popular when known.



Practical Work of the Farm.

MR. DARLINGTON:—I have sometimes thought you might devote a column or two of the Journal to short communications on the practical work of the farm, with some pecuniary advantage to your subscribers. I think it more than likely that the farmers who take this Journal, as a whole, perform their work in as neat and labor saving a manner as any in the Union, but some have a better mode of doing one thing, and others a better way of doing another; and as farmers are a stay-at-home people, we do not always profit by the example of our neighbors. To give us the advantage of each other's experience, without neglecting our farms to look for it, I propose that every subscriber to the Farm Journal, who thinks he knows how to perform any branch of farm labor better, or quicker, than the generality of his neighbors, shall write out his plan, if not in the most approved style, never mind; I know from experience that the editor is a scholar and a gentleman, and will correct our grammatical errors, and if he should be tempted to laugh at our manuscript, will keep all the fun to himself.

As I do not propose a plan without being willing to assist in carrying it out, I will give you one or two examples of my own gains from seeing what others were doing.

I have helped to plant potatoes in the usual way (every third furrow) ever since I could carry a school basket full, and thought I could not be taught any thing further about it; but not more than two years since, I discovered that one of my neighbors planted about twice as many with the same force of men and horses. The only difference was that we opened both planting furrows at the same round, and he plowed a round and a half after crossing the first row before he planted the opposite row. We waited for the plow, and the plow had to wait for us, while he kept both going all the time; and I am well satisfied that any man having more than half an acre to plant will save from one to two dollars by the difference of time.

And as it happens to occur to me, (although rather out of season,) I will give you another of my acquisitions, obtained in the same way. I have always stacked my own corn fodder, and never had a sheaf to spoil except the top course; but as I run the rick parallel with the yard wall, I always thought it necessary to plant two or three poles or scantling to keep the ends perpendicular, but last fall I noticed one of my neighbors had built a rick perpendicular at the ends, in fact rather overhanging, without supports of any kind. As I had rather prided myself on stacking fodder, I began to grow less almost as fast as Davy Crockett, when the Indians were prying into the tree top in which he had concealed himself; but as I was not too old to learn, I soon discovered that it was done by placing the end sheaf, and bending four or five stalks back, lengthwise of the rick, and then placing the adjoining sheaves; the four or five stalks bent back from the band of the end sheaf, having the weight of the adjoining fodder on them, prevents the end of the rick from slipping out.

Now, gentleman, the track's clear and the way open, do not keep your light under a bushel, but give us the benefit of your experience.

V. W. I.

"A Query Answered."

J. L. DARLINGTON:—The case stated in the February number of the Farm Journal, in regard to the sale and purchase of grain, and the query propounded in connection therewith has been answered by your correspondent "L," in the last number of the Journal, in a manner not quite satisfactory to some of your readers.

A presents B with a sample of wheat for inspection, with the information that he has five or six hundred bushels for sale, according to sample. B replies that he will give him the market price for the wheat. But it happens that the grain in question is not delivered for a few weeks, during which time the market price rises or falls, as the case may be, some fifty cents per bushel. What is the rule or custom observed in the purchase of grain to be applied in the case supposed.

B says I will give you the market price. Now it appears to me that this expression must be allowed to be governed by circumstances as to its sense and evident intention. Every port in the Union where grain is purchased has rules and regulations to govern, and a price which is deemed a market price. New York has a market price, and New Orleans has a market price, varying as to amount, and each governing, to a certain extent, at the different depots on the channels for communications to these ports respectively. I refer to these facts merely to show, that in almost every community there is a point for concentration, wherein the rules for purchase are made and established, which govern in that community.

In conclusion I will revert to the regulations which are adhered to in this section of the country, (with which I am best acquainted,) which have been established by the millers on the Brandywine, Wilmington, Del. The rule is, as I am informed, to pay the market price at the time of delivery, unless a special contract has been previously made as to time and price. The justice and propriety of this rule I think must be apparent. If the seller is allowed a few weeks for delivery at his discretion, and without special contract, he may, to carry out the principle, postpone the time for delivery for six months or a year, or any other indefinite period. T.

New Castle co., Del., March 22, 1854.

Improvement of Stock.

MR. EDITOR:—I admire the sentiments of Mr. Gilleland's preamble and resolution, so far as it advocates the improvement of stock in our State. By all possible means each and every man should try to convince his neighbor that there is more profit in raising one good animal than there is in two or three poor ones. Now admit a law were passed to tax all male stock, would it have the desired effect? I am of the opinion that it would not. There is a great deal of humbug practised on farmers in regard to stock; many, if not being acquainted with the different breeds, would be as likely to be deceived as under our present system. I think before our Centre county friends urge the passage of a general law to that effect, they should confer with agriculturists from different sections of the State. I would prefer that the State and County Agricultural Societies should hold out inducements to township and neighborhood clubs to buy bulls, rams and boars, of undoubted merit to improve their stock.

I throw out these hasty remarks, Mr. Editor, in the hope that it will call out those who are competent to discuss the matter with the Centre county gentleman. I am satisfied that Mr. Gilleland, and others of that meeting, are men of good judgment, and quite as anxious as I am myself to arrive at the best plan of improving our stock. This can more readily be effected by comparing views and opinions, through your valuable Journal, by our most experienced farmers. Yours respectfully,
 Mercer, March 13, 1854. DANIEL BAIRD.

Milk House.

Editor of Farm Journal:—I observe, in March number, "A Subscriber" wishes some information respecting a milk house. If the subscriber would come to my place, I will inform him what I know about them. I have used one for five years, and find it will answer. As for bringing the water the distance he says, it will not do I think. The way mine is fixed will cost less than to bring the water 600 feet in pipes; mine answers the warm weather as well as the best spring house in the State. Yours, &c., BENNETT M. TEMPLE.
 Middletown, Del. co., March, 1854.

Sowing Grass Seed.

J. L. DARLINGTON:—The importance of having the land that is laid down to grass for pasture, or other purposes, well and completely covered, is a consideration, I think, of more importance than many farmers have as yet esteemed it.

The unnecessary exposure of the soil to the rays of a summer's sun, I have ever regarded as injudicious and unwise. Every practical agriculturist must have observed that, wherever and whenever the soil is completely covered and protected from the rays of the sun, that invariably it becomes rich and fertile. Notice, for instance, the character of the soil which has been covered for some time by rails that have been thrown upon the ground, or by stones that have been gathered from the fields and deposited in heaps, by boards, brush, or any thing else, that will serve to protect the soil from the rays of the sun for a considerable length of time, and you will perceive that the soil thus protected has become a black, rich loam. And let it not be said that it is owing to the rest that the soil has obtained by being placed in this situation, for if it is compared with the soil adjacent thereto, and of the same natural quality, and, in every respect similarly situated, except the protection thus casually afforded, and you will find by every test that may be applied that the portions thus protected have become infinitely more fertile than that immediately adjoining.

Observe, too, the condition of our forest lands. Notice, if you please, lands that are covered with a kind of timber, affording an abundance of foliage, such as our native oaks, and you will there find a rich, fertile soil; unless, as is often the case in exposed situations, the swift winds sweep the fallen leaves from the position in which they were wont to lie, seemingly to protect and nourish the parent tree; then, to compare the soil thus exposed to the other portions, where the foliage has accumulated, and you will again find further proofs to sustain our position.

In accordance, therefore, with the views herein presented, I conceive it to be a consideration of the utmost importance to the interests and prosperity of the farmer, whenever, in the cultivation of his fields, he anticipates putting them down to grass, to sow plenty of seed. Say of timothy six quarts, and of clover a peck per acre, in order (if for no other reason) to have the soil protected from the rays of the sun. T.

Experiments with Manures.

J. L. DARLINGTON:—All persons engaged in farming to any extent have felt the necessity of increasing the size of the manure heap. Having some experience in that line, I have concluded to give the result of that experience to the readers of the Farm Journal.

We have a stable separate from the barn where twelve mules are kept. For several years after this stable was put up, we threw out all the manure at the end of the stable, where, between the rains that leached out the soluble parts, and the fermentation that was almost constantly going on, causing the escape of the gasses, and consequently from this cause the quantity also was very much lessened, we were able to obtain in the course of the year from forty to fifty loads, and rather poor stuff at that. After following that plan for several years I came to the conclusion to make some alteration in that department. I put up a shed at one end of the stable for the better protection of the manure. The plan then adopted, and the one I still continue to pursue, is to spread a layer of manure and then a layer of earth, (say about three inches thick each,) the earth we obtained from the sides of the road, the scrapings of ditches, &c. When we come to take out in the fall of the year, instead of forty to fifty loads as heretofore, we obtain from one hundred and forty to fifty loads. The quantity not only greatly increased, but the quality also.

In the fall of 1852 I had a favorable opportunity of comparing the effect of the compost manure with that from the barnyard, also of testing them in comparison with guano and Chappell's chemical salts and guano mixed together. The field these experiments were tried on contained a little over twenty-five and three-fourth acres. It might be well to state how this field had been cropped for some years previous. For three years previous to 1851 it had been in clover, that spring it was planted in corn and yielded seventy-five bushels to the acre, the next spring it was sown in oats and turned off near fifty bushels to the acre, in the fall of 1852 it was sown in wheat and manured as follows: No. 1, eight acres, received a coat of manure from the barnyard, about sixteen cart loads to the acre spread on the stubble, and plowed under; No. 2, four acres, had sown upon it about 300 lbs. of guano to the acre, and plowed under; No. 3 manured with the compost, about the same quantity as No. 1 per acre; No. 4, four and three-fourth acres, received 150 lbs. of guano and 200 lbs. Chappell's salts. The guano moistened with pickel, made of salt and water, as strong as it could be made, and then mixed with the salts, and sown on the top after the ground was plowed. I cannot come at any great degree of accuracy in the result as the wheat which was sown upon it, was not kept separate from the different parts of the next harvest. All I could judge from was the difference

in appearance as presented to the eye, but it was quite perceptible in all the lots. No. 1 was the poorest, probably four or five bushels to the acre less in quantity than the best; No. 2 in the guanoed part came next; No. 3 on the compost part was better than No. 2, but No. 4 was the best wheat in the field. The whole field turned off 798 bushels of wheat, or thirty-one bushels to the acre.

The field is now in clover, and should there be any difference in the quantity of grass on the parts manured, I may give you the result hereafter. E. J. D.

Hopewell, March 17, 1854.

The Cowkeeping Ant.

MR. DARLINGTON:—I have before me a highly interesting little volume lately published in London, entitled the "History of Insects," giving the best summary account of the recent discoveries in the science. It amply deserves republication in this country. I propose to abridge from it an account of a tribe of ants, altogether new to me, *which keep cows!* It appeared at first sight so much like a romance, however, that I have turned to several standard authors on the subject, and find it fully confirmed.

They keep and feed certain insects, from which they extract a sweet and nutritious liquid, in the same manner as we obtain milk from cows. There are two species of insects from which the ant tribe abstract this juice, the aphides, or plant lice, and gall insects. Linnæus and, after him, other naturalists have called these insects the milch cattle of ants, and the term is not inapplicable. An attentive observer may see them ascending trees to milk their cows, the aphides. The substance here called milk is a sweetish fluid, which these plant-lice secrete, resembling honey in taste, and which issues from very small tubes or teats. After they have sucked the sap of the tree or plant on which they reside, the ants milk them with their antennæ with much the same motion as is employed by a milk maid, making them yield the liquid at pleasure. Thus it proceeds from one of its *cows* to another till satiated. These cows are the property of tribes, and are kept much after the fashion of the animal so extremely useful to man; sometimes they remove them from their native place and domesticate them in their own habitations, affording, as Huber justly observes, an example of almost human industry and sagacity; other species, which do not gather the plant-lice together in their own nests, still seem to consider them as private property, they set sentinels to protect their places of resort, and drive away other ants, and what is still more extraordinary, they enclose them as a farmer does his sheep, to preserve them not only from rival ants, but also from the natural enemies of the aphids. They construct round the branch on which their cattle are feeding, an inclosure of earth, or some other material, thus securing them from wandering and from interlopers.

The brown ant has been observed by Huber to build a chamber round the stem of a thistle, in such a way that the stalk passed through the centre, so that from their ant-hill they had only to climb the thistle stalk in order to enter their cattle fold. The interior, smooth and compact, was entirely formed of earth; it contained an ex-

tensive family of insect cows, but he remarks such exhibitions are not common.

In winter the ants would be exposed to the horrors of a famine did they not rely for food on their cattle. Their milch cows are then kept on the roots of the trees which penetrate the interior of the nest, and furnish an abundant supply of the liquid in which their keepers delight. And not only is the full grown animal kept, but its eggs are watched and guarded with that care which warrants us in supposing that the ants know their full value. In order to have an early spring supply of milk, the eggs are deposited in the warmest part of their dwelling.

To the naturalist we have probably related nothing new, but to the general reader we may have promulgated a new idea. At all events, we shall be rewarded for our trouble of abridgement, if we turn the attention of a single student of nature's laws to the highly interesting and now *fashionable* study of natural history. J. S. G.

Media, April, 1854.

For the Farm Journal.

MR. EDITOR:—Can any of the readers of the "Journal" inform me of the *time* to girdle gum trees that it will kill them? I have frequently girdled them, but without success.

If any of my friends have cattle that are not hearty, or appear as if they had a touch of the "hollow horn," feed them poke root, a piece four or five inches long and three-fourths of an inch thick; feed two or three times a week; cut fine and mix with potatoes, and chop so that they will eat it. Occasionally feeding poke root, say once a week, will keep your cattle hearty and good feeders. I have a yoke of oxen that three winters ago were almost on the "lift." A friend told me to feed them poke root as above, and they would soon be right enough. I did, and the result was satisfactory. It is an excellent preventive and well worth trying. Ask your doctor, and he will explain more fully, than is necessary for me to do here, its medicinal properties—it is next to Sarsaparilla. In haste, yours with respect, B. M. E.

American Pomological Society.

The fifth session of this National Association will be held at HORTICULTURAL HALL, in the City of Boston, Massachusetts, commencing on WEDNESDAY, the thirteenth day of September next, at ten o'clock, A. M.

It is intended to make this assemblage one of the most interesting that has ever been held in this country, on the subject of Pomology. All Horticultural, Agricultural and other kindred Associations, of North America, are therefore requested to send such number of Delegates to this Convention, as they may deem expedient.

Pomologists, Nurserymen, and all others interested in the cultivation of good fruit, are also invited to attend the coming session.

Among the objects of this Society are the following:

To ascertain, from practical experience, the relative value of varieties in different parts of our widely extended country. To hear the Reports of the various State Fruit Committees, and from a comparison of results, to learn what fruits are adapted to general cultivation; what varieties are suitable for particular localities; what new varieties give promise of being worthy

of dissemination; and especially, what varieties are generally inferior or worthless, in all parts of the Union.

In order to facilitate these objects, and to collect and diffuse a knowledge of researches and discoveries in the science of Pomology, Members and Delegates are requested to contribute specimens of the fruits of their respective districts; also papers descriptive of their art of cultivation; of diseases and insects injurious to vegetation; of remedies for the same, and whatever may add to the interest and utility of the Association.

The Massachusetts Horticultural Society has generously offered to provide accommodations for the Society, and also to publish its proceedings free of expense.

All packages of fruit intended for exhibition may therefore be addressed as follows:—"FOR THE AMERICAN POMOLOGICAL SOCIETY, Horticultural Hall, School Street, Boston, Mass.;" where a Committee will be in attendance to take charge of the same.

All Societies to be represented will please forward certificates of their several delegations, to the President of the American Pomological Society, at Boston.

MARSHALL P. WILDER,

H. W. S. CLEVELAND, Sec'y. President.
Boston, Mass., April 1st, 1854.

EUROPEAN AGRICULTURE--No. 5.

Erroneous Opinions of the Ancients Respecting Lime—Its History to the Latter Part of the 18th Century.

LEIPSI^C, Feb. 26th, 1854.

MR. EDITOR:—Without preliminaries we will proceed to the history of Lime:

Von Helmet, a nobleman and chemist of the latter part of the 15th century, supposed lime took on an acid while it was burning, from which it derived its caustic properties. (The very reverse was the case, since it is known to give off an acid in this operation.) He thought it probable that sulphuric acid, in small quantities, was absorbed, as this acid was very corroding, and might impart corroding properties to the lime. And since sulphuric acid (oil of vitriol) was known to become heated when mixed with water, so it made the lime hard when immersed in water.

In 1676 Ludovice, a Gothic physician of Heimar, refuted this theory, without, however, establishing any other in its stead.

In 1659 Frantz de le Bol Sylvius, a doctor of Leydon, spoke especially upon this subject. He first pointed out the difference between *effervescence* and *fermentation*, and observed that the sweet smell of lime, when heated under water, was different from either. But this much took place in the operation of the water, viz: it lost its fire material, &c.

A. Lemarc, a chemist and physician of Paris in the latter part of the 16th century, explained the effect of caustic lime upon potash, in which the latter became caustic by supposing it received from the lime a "fire material."

In a treatise before the Paris Academy of Natural Sciences in 1709, he still maintained the same views. He considered the fire material was really a material substance, which had weight, but which could penetrate all vessels. (An idea with some semblance to that of modern times, that heat is a material substance; and it may be proven during the next hundred years that we now stand, in our relation to heat, as did the ancients, at the period I speak, with respect to a subject so simple (now) as that of converting the carbonates into the caustic state.)

He considered the change of weight in burning was due to the calcinating of the metals in the substances. The metal of lime he considered was very closely allied to that of potash, except that in lime the fire material was more firmly bound, since the potash imparted all its fire material to water, and the lime did not. Those substances only which contained fire material, and which imparted it easily to organic substances when placed in contact with them, were called caustic.

Homberg endorsed the same idea. (Homberg was of Saxon origin, born 1652 in Batavia. At an early age he selected the study of law; he studied in Jena, Leipsic and Prague, and commenced practice at the age of 22 in Magdeburg. Here he became interested in the natural sciences. His attention was first directed to botany, then to astronomy and the physical sciences generally, in which he was assisted by the far famed Otto Von Guericke, who was then Mayor of the city. He finally became so interested in science that he abandoned the practice of law, and went to Italy, where he visited several important places to prosecute his studies. He here studied medicine, and afterwards went to England, where he became interested in chemistry, in which science he made several important discoveries.) In a memoir before the Paris Academy of Natural Sciences in 1700, he made observations on the neutralization of acids by means of the earths, and gave a reason for the causticity of lime. He afterwards maintained that the loss of weight through burning could only be explained by the substance taking on a fire material.

In 1677 Kunkle, an associate of the last gentleman, said that the alkalies were made caustic by the action of lime through the instrumentality of a corrosive substance that it contained, and imparted to them; he called this corrosive substance an acid.

And Stahl in 1702 spoke of the causticity of lime, and considered that it was owing to a fixed fire that it contained.

Here the history of lime runs through about 100 pages that are devoted to the phlogistic theory, which name (phlogisten) applied to this fire material, and which theory was admitted by the chemists for over 100 years, but it is now entirely abandoned. It is not deemed necessary to follow the author through these details. Suffice it to say that Stahl dwelt particularly upon the separation of the water from the lime by heat, and thus the fire was fixed in the place of the water, and when it united with water again to form what he considered a body similar to a salt, it gave off this fire. One of his scholars sought in 1726 to prove that a caustic alkali *only* could be obtained by bringing it in contact with substances that had previously been exposed to fire. Others of his students sought to prove that the causticity, produced in the alkalies (as those in ashes) by caustic lime, was dependent upon causes much more closely allied to what is now known to be the truth. One of them says all salts contain, as was maintained by Stahl, a primitive acid. However, the ley salts (as common potash and soda, which are obtained by boiling a ley solution down,) which are alkaline, contain less of this acid. The tartrate of potash (cream of tartar) contained a portion of this acid, which, when the salt was mixed with caustic lime, was withdrawn by the lime, and the substance became caustic. (By adding a little finely powdered common limestone to a hot solution of cream of tartar, this experiment may be performed; part of the acid of the bitartrate goes to the lime, and the cream of tartar thus loses its sour taste.) But most of the chemists of that time adopted the more erroneous idea, that the causticity of lime was owing to something that came out of the fire, and united with it. Others were even more absurd, in supposing that

burnt lime contained a biting acid, something to which it owed its causticity.

As late as 1749 the difference between caustic and carbonated substances was not recognised. They had observed the effervescence of lime when heated with acids, but supposed it was merely a mechanical effort, without recognising the escape of the gas that passed off.

Some men, it is true, did, at times, appear to be just on the eve of seizing the truth, but amid the thousands of speculations that enveloped them, and the absence of the means of experimenting, nothing was established so satisfactorily as to take the precedence of error.

Thus after a period of over 1800 years through which we have glanced at the history of lime, in which hundreds of philosophers had expended their wisdom in examining it, we find the scientific world, less than 100 years ago, almost as ignorant of its composition as the man who first used it for making mortar. Had we time we might consider a corresponding series of erroneous ideas, relative to the nature of carbonic acid, which enters into the composition of limestone; a pretty general idea was that it partook of the nature of sulphur, and was by some called spirit of sulphur. But toward the latter end of the last century all these theories received their death blow through the investigations of the immortal Lavoisier, who dealt a final stroke to alchemy, and taught the world the legitimate object of chemistry. Heretofore nothing had been learned that is of any importance to-day, except as a historical illustration of the immense amount of effort required to learn what now appears to be the most simple facts. Yours, &c., E. P.

For the Farm Journal.

HIGH FARMING.

As there may be some who have not heard of this new form of agriculture, we will explain that it is understood to mean an attempt to make land produce more than nature ever designed it should yield, by large outlays of money and small expenditure of thought or judgment. The surface of the earth has been again and again torn to pieces and brutally ill used, by conceited and ignorant persons, under the delusion that they were practising the art of agriculture. Poets, in the waywardness of their imaginations; philosophers, led away in the mystification of some theory; patriots, who have heard the adage that "he is the greatest man who makes two blades of grass grow where only one grew before," and determined to have the approbation of their own consciences, even if ridiculed by their fellow countrymen; philanthropists, who carry their heads loaded with as many schemes as a spider's bag has; young merchants and tradesmen worn with the fatigue of day books and ledgers, and perhaps disgusted with their own art, and with those, too, of their competitors in the career of avarice and accumulation, turn their impatient energies to try the mild and uncomplaining earth, and vent upon her bosom all the dreams and delusions a fevered brain can invent. Such men delight in being called "farmers." There is a solid strength in the sound, an idea of enduring vigor, and of usefulness, that captivates their inexperience. Men, whose ideas of the art of husbandry never extended beyond the unthinking consumption of its products, and who had never regarded those who practised it as more than a body of heavy heeled and coarse witted plowmen, are suddenly transported with visions of green fields and babbling brooks, and by

some juggle of the fancy feel as if transformed into hardy yeomen.

Under such an impulse they purchase a landed estate, probably for much more than it is worth, and immediately with an air of resolution and most courageous defiance of all advice, go to work. The idea that seems to give their hearts buoyancy and encouragement is, that they have a patent for making land produce. Whence or how this invention was hit upon is a mystery they do not choose to unfold, but certain are they that it is infallible.

With this kind of inspired agricultural genius, and with the consciousness of an intuitive knowledge of the whole art of husbandry, these persons give up their counting houses, turn their backs, and march forth with full purses and empty heads, to try a new career in life. What is the result, and what is proved by the daring and ostentatious experiment: that they have, by every means in their power, trumpeted forth with as great a flourish as if they had already developed some new power in nature, or met a triumph in the discovery of some new laws. For the first year they seem, in their own conceit to be magicians. The grass grows, the grain matures, calves are born and chickens are hatched, with them, many other things equally new, strange and wonderful. These mysterious movements they ascribe to their magical art. They see the sweeps of their wand in the crops and the harvest, in the unusually rapid growth of little pigs and young chickens, and are ready like the illustrious Mr. Sampson to exclaim, "Prodigious!"

The first year of their attempt to enlighten the world, and to prove, not only the simplicity of the art of husbandry, but that all who have heretofore practised it were consummate dunces, passes under much excitement, and that not disagreeable agitation, that comes from the brain being tickled with new and unusual ideas. Even the day of reckoning, and the closing up of the annual accounts, is got over with more than usual fortitude; there is on their countenances even a smile of power, as if they had done a deed, so judicious, so courageous and so manly, that not only their own hearts and consciences upheld it, but that it merits the lofty approbation of public applause.

The second year is entered on with a feeling of content and benignant satisfaction. The excitement at the majestic movements of nature is somewhat softened, but there is still a sense of wonder that their things should grow, and a yet lingering impression that the whole is due to the earth and the seed being theirs. Another settlement comes round. Multitudinous bills and multifarious demands, with a seemingly immovable and inaccessible mountain pile of things yet to be done, looming through an unremunerative and extravagant future, not a little shakes, and at least causes to vibrate, the stern resolution of the transformed aspirant to agricultural glory. A malicious looker on might remark a slight lack of ambition's sterner stuff. But all is gone through, though there is a little contraction of the brow, an inconsiderable anxiety of respiration, with a nervous shrinking from the shrill echo of a subsiding purse.

In a year or two more the discomfiture is complete; he who undertook to teach funds that he has begun to learn;

he who set out with the belief that all were fools but himself finds that he has, with much expense, made himself ridiculous with much uncalled for labor; reared a column on which he himself stands, an object most prominent and conspicuous for folly, extravagance and ignorance.

Such is the fate of unprepared and uneducated agricultural endeavors. All who take to agriculture, even in the humblest view of the art, find that there is an amount of practical details absolutely necessary to be known, that require vigorous, active, practical talent to attain, and that no man can conquer these but by persevering effort. By one bred upon a farm, to whom work is a habit as well as a necessity, these details are imperceptibly acquired; they are not to him laborious exertions, but a routine that forms his life and his daily occupation, but to one whose sniff of fresh air has not been gathered beyond his place of business, and whose muscles have not been hardened by toil, the necessary exposure and the necessary labor of a farmer's life are nearly insurmountable obstacles to success.

This applies, however, rather to one who intends to work than to one who intends to make high farming his pursuit. The first must have muscle as well as mind, the other makes money a substitute, and by its useless and unnecessary expenditure tries to conceal and overlay the consequences of ignorance. Still to him the knowledge of details is necessary, for if entirely ignorant of them, he will find that he has entered a powder magazine with a lighted match.

It should be impressed on all who enter upon agricultural pursuits, that as a business they are not profitable. The art of husbandry seems to have been especially designed as a healthy and happy occupation, as the means of erecting a vigorous people, one on whom, whether in war or peace, the strength and stability of empires repose. Their lives and fortunes are fixed, but they are not exposed to the fluctuations of trade, nor to the hazard of speculation. Still, whoever becomes a farmer should be aware that he has not chosen the path that leads to a rapid or large accumulation of wealth, nor is it the career of ambition. The pride, vanity and active selfishness of those who seek power are, by no means, compatible with the plain and frugal life, and toil, and sweat of a husbandman. It is possible to gratify that ambition that prefers usefulness to eminent position, but agriculture has no honors for those whose hearts are filled with discontent, and whose brains are filled with the excitement of passion.

Those, then, who turn to agriculture, must set out with the clear understanding that they are to derive no profit from their investments, that they may do much good, or, by the judicious expenditure of money, be of the greatest use, but that if they start with the conceited assurance that they already know as much or more than men whose knowledge is a tradition and an ancestral inheritance, besides being objects of continued ridicule, they will find that they have found wisdom, and subdued weeds, at a very heavy cost.

We do not mean by these remarks to deter any one from engaging in agricultural pursuits. There are certainly none more engaging or interesting, but we wish to warn off from the very precincts of the art of hus-

bandry a class of men, who, by their extravagance, ill success and disappointment, make the name of agriculture a by-word.

Philadelphia, April, 1854.

For the Farm Journal.

The Persevering Farmer.

Picture to yourself an anxious elf,
With large, stout limbs and little self,
Striving to be master for himself,
By leasing a sluggish's farm.

The house is old, and needs repairs,
Utensils all are worse of wears,
The doorless stable—how it stares!
The roof is off the barn.

The featherless fowls do hearsely crow,
The fleshless cattle dimly low,
Horses to work can scarcely go,
I wish the winter by.

The breeding sow, she loudly squeals,
She gets each week but seven meals,
She's dizzy in the head, and tumbles "the creels,"
My family sit and cry.

In spring the grass begins to grow,
Some fields with summer grain I sow,
And plant five acres with potatoe,
In hopes they'll all do good.

Next I plant a field with corn,
With wearied soul, and heavy mourn,
My jaws are thin, my clothes are torn,
I scarce get any food.

Now the grass has grown up tall,
I free the cows from out the stall,
They run to pasture—how they bawl,
With heads as light's a feather.

Now see them gaze around the field,
Now they milk and butter yield,
I've built a shed for them to shield
From rain and stormy weather.

The hens have, too, begun to lay,
Each pays my wife an egg per day,
Mag now smiles, and seems to say
Now we'll all get rich.

Our daughters blithe, their dresses kilt,
To strip the cows and churn the milk,
On Sundays they are clothed in silk,
We all attend the church.

Our grain fields now hang full of ears,
The horses now prick up their ears,
This change of things dispels our fears,
Our sturdy sons rejoice.

At harvest time we gather in,
Filling barn, cellar, crib and bin,
Never tasting whiskey, rum and gin,
Good cider is our choice.

The house and implements are mended,
The barn is now with roof defended,
The stable now with door is blended,
Every thing looks snug.

We're well fed now, and trimly go,
We are snugly clothed from "top to toe,"
We have pleasure now in place of woe,
That makes us cock our lug.

We are rosy now, though once so blue,
Stout perseverance took us through,
And drove all obstacles from view,
Likewise distress and poverty.

To God each day we kneel and pray,
To keep us all from going astray,
Our yea is yea, our nay is nay.

Our worldly friend is Industry.

Philadelphia, Jan. 23d, 1854. WALTER ELDER.

BREAD-MAKING.

We shall not presume to instruct our fair readers in the art of bread-making. The process, however, involves some scientific principles, which we propose to explain in continuation of our series of familiar remarks on chemistry. Wheat flour contains two principal ingredients, *gluten* and *starch*, besides a small per cent (4-100 to 8-100) of sugar. The outside of the kernel of wheat contains a larger proportion of gluten than the finer flour. These two parts of the flour may be separated easily by enclosing a little flour made into a stiff paste, in a linen bag, and kneading it in a basin of water, until the water that comes through is no longer white. The starch by this process escapes from the bag, and the gluten, a tough, adhering mass, remains within.

If flour were simply mixed up with water, and baked without raising, it would make a very close, indigestible and unpalatable bread, hardly worthy of the name. To become soft, light and palatable, the dough must be raised. This is effected, ordinarily, by one of two common processes. In making what is generally known as raised bread,—improperly so distinguished, because all bread is raised either before baking or in the process,—the dough is made up with water only, it may be, and a small portion of yeast, which is to act as a ferment. In the making of cream-of-tartar or sour-milk bread, the means of raising it are different and act in a very different way, chemically. In the first, the fermentation of the yeast or leaven is extended to the mass of fresh dough. The decomposing gluten acts upon the sugar and resolves it into alcohol and carbonic acid gas. This gas, in the form of little air bubbles, is disseminated through the loaf, and expands or raises it, being prevented from escaping by the glutinous nature of the dough. The alcohol formed by the fermentation is expelled from the dough by the heat of the oven. It has been collected sometimes, in large bakeries, but hardly pays for the trouble. The dough sometimes becomes sour before baking, in consequence of a second fermentation—the acetous—by which the alcohol is converted into vinegar, on the absorption of oxygen from the air. It then becomes necessary to introduce into the dough some alkaline substance, as soda or saleratus, which unites with and neutralizes the acid, and makes the dough sweet again.

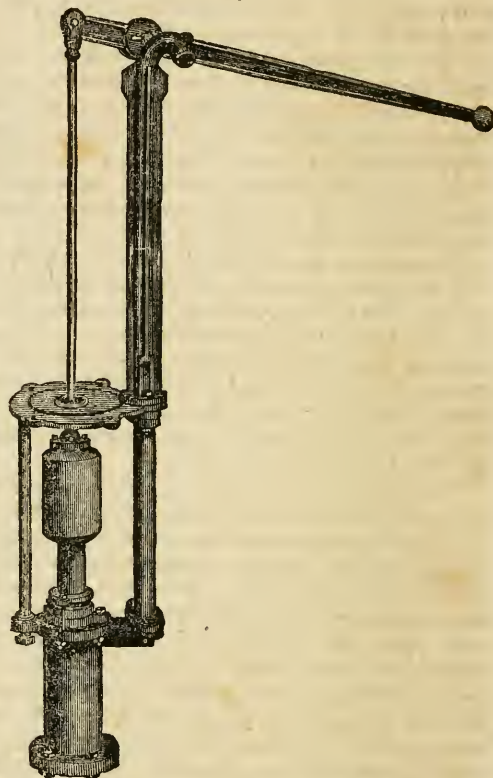
In the second kind of bread named above, the carbonic acid to raise it is obtained from the carbonate of soda, or of potassa, (saleratus) by mixing with it in the flour some acid, as sour milk, cream of tartar, or cider, or vinegar, or hydrochloric acid—either of which, by its stronger affinity for the alkaline base—the soda or potassa—unites with it and liberates the carbonic acid. We see that by this mode of raising the bread, the sugar of the wheat is retained in it; whereas by the other process it is converted into alcohol and carbonic acid. We see also that the use of soda or saleratus is very different in the two kinds of bread-making. In the first, the alkaline base is required to neutralize the acetic acid,—in the second, the carbonic acid is needed to raise the bread. In each case a neutral substance is left in the bread; in the first, an acetate of soda—in the second, a base of soda or potassa, united with whatever acid is used.

Bread when baked is neither starch nor gluten. The globules of starch which remain unbroken in the flour, swell and burst under the influence of the moisture and heat, and with the gluten unite chemically with the water of the dough and form bread. No separation of the starch and gluten can be effected after baking. Even a portion of the water chemically united with the bread cannot be separated from it by evaporation. The hardest and driest bread has water combined with the flour.

Gluten is the most nutritious part of the flour. The bran,

therefore, should not be excluded from the bread, if we have regard to its highest nutritive qualities.

The crust of bread, when moistened and returned to the oven, becomes smooth and shining. A portion of the starch, in the process of baking, is converted into gum. This gum on being moistened spreads over the surface of the bread producing the smooth surface, and also giving the crust a taste which the bread does not have. Corn bread has a peculiar aromatic flavor, owing to an oil which is disseminated through the meal. The inferiority of meal long ground, to that which is fresh, is due to the change which exposure to the air has made in these oily particles.—*Portland Eclectic*.



Warner's Patent Suction, Forcing and Anti-Freezing Pump.

The above engraving represents one of these valuable articles. The following description is by the Judges on machinery at the last New York State Exhibition:

"The cylinder is 4 inches in diameter; length of stroke 6 inches. At the ordinary speed of hand pumping, it throws a stream through 18 feet of hose and a $\frac{3}{4}$ nozzle to the distance of 80 feet. When the point of delivery is 4 feet 4 inches above the surface of the water in the well, ten strokes of the lever raise three gallons of water; or it will raise, with ease, 27 gallons per minute, at the ordinary rate of leisurely pumping. In cases of emergency, with rapid action, it could be made to raise double or treble that amount. It has a movable air-chamber, carries a steady, continuous stream, is durable and unaffected by frost. Where a farmer desires to have a pump in his well, which besides supplying his family and stock with water, will answer for a fire engine, when connected with a hose and pipe, he cannot have a pump better suited to his purposes than this one."



THE DROP WORM.

A, male larva; B, female larva and case; C, male pupa in the case; D, suspended female case; E, male pupa protruding from the case; F, male imago; G, female pupa; H, female imago; I, ova.

NOTE.—B is represented as laying on the ground, and about returning to the tree again by a fine silken cord fastened above. H should be somewhat larger in proportion to the other figures—the drawing was made from a retarded specimen. In F the antennæ should be proportionably somewhat smaller. J and K are of no account at present.

For a more extended reference to this worm, we beg to refer our readers to an article by our esteemed correspondent S. S. RATHVON, Esq., on page 111 (April No.) of the present volume. We designed the engraving to accompany the article, but could not get the work done in season.

Strawberry Question in the West.

It would seem by the following extract from the proceedings of the Cincinnati Horticultural Society, that entire harmony does not reign, even at "head quarters," on the Question.

The minutes being read, were passed as appeared. Mr. Jas. W. Ward was called upon, and read a paper on the strawberry question, in which he gave a very distinct account of the botanical character of the plant, and also the peculiar abnormal characters of some varieties. He claimed that all aberrations from the normal type of the genus, are accidental and liable to revert to the original form—a position that was questioned by the members. The reader objected to the word *Dioica* as applied to the Strawberry, also to that of the word *pistillate* for what have been called female or pistillate flowers, all have rudimentary stamens. He alluded to the abuse of the word fruit, which is botanically applied to the seed proper; he cited several fruits that were developed and eatable, though devoid of proper seed. Here it was objected that whatever might be the law with other plants, it was not so with the Strawberry, which always swelled in proportion to the perfectness of the seeds or fruit proper. Some discussion ensued, when it was ordered that the paper be put on file, and a copy tendered to the *Horticultural Review* for publication.

"Shortening-in" Peach Trees.

All writers on the subject agree that "the Peach of all other trees, is one that from its mode of growth and bearing requires constant pruning to maintain it in a shapely, thrifty and productive state." This is explained by the author of the "Fruit Garden" as follows:—The sap of the peach tree tends powerfully to the extremities of the shoots, more so than in any other fruit tree. The buds that do not push and form shoots the first season after their formation, are lost; they cannot, as in most other trees, be excited into growth; and hence it is that the lower parts become so rapidly denuded of young wood, and that trees left to themselves for six or seven years, are in a measure worn out or worthless.

It is a fact that must always be kept in view by cultivators of the peach, that "the fruit is borne only on wood of the preceding year; and consequently one of the great objects of the pruning, is to keep all parts of the tree furnished with a regular and constant succession of annual bearing shoots."

The *Shortening-in* mode of pruning has been found most successful in accomplishing this. It consists in yearly cutting back the extremities, so as to counteract the spread of the limbs, and induce more frequent branches. In a young tree, for instance the growth of a year consist of shoots all over the top or outside of the tree, from a foot or two feet long. In a bearing tree there will be one or two wood buds at the base, and two or three more near the top and terminating the shoot. The remainder, a dozen or more in number—will be fruit buds, and if untouched will probably bear, destroying the wood buds at the base and pushing out at the extremity, new shoots, but weak, in consequence of the quantity of the fruit below them. At the end of the season, the shoot of last year will show a long, vacant space, without a young shoot or living bud, and in this way the centre of the tree soon contains only bare limbs, and the vigor of the tree is wasted by over production.

When the shoots are shortened one-half, or thereabouts, the sap is retained in their lower parts, one half the fruit buds are removed; and those that remain produce larger and better fruit; the lower wood buds produce vigorous shoots to bear next year, taking the place of those which have already

borne In this way, regular uniform crops of large and fine fruit are produced, and a succession of young shoots kept up. "If this pruning," says THOMAS, "is regularly and annually performed," the head of the tree will be preserved in an even and compact shape, and in a healthy and vigorous condition; and it will rarely become necessary to shorten and thin out the limbs by cutting back the larger side branches."

Something may be done for large, neglected trees, by an intelligent operator. They will have a head composed of long, branchless limbs, and consequently an open centre. The fruit will be produced on the ends of the limbs, and the tree become tall and enfeebled from over bearing and a constant succession of terminal shoots. The proper shortening-in is performed by cutting back the principal limbs, three or four feet—taking care to do so just above a considerable side branch, which leaves no stump, and causes the wood soon to heal over. Such pruning will, in a year or two convert the unshapely and unproductive tree into a compact and vigorous one, improving the fruit exceedingly. The tree will throw out a new head of healthy bearing wood, and trees, "given up by the doctors" as superannuated and worn out, have thus regained their youth again,—good at least for half a dozen years' fresh service. Some cultivators operate on only one side of the tree in a year. This does not prevent the bearing of the other side, and next year the side cut will be ready for fruiting. Early in spring is the proper time for this, as well as most other pruning.—*J. H. Bixby, Rural New Yorker.*

Cause and Cure of the Potato Rot.

MR. ANDREW SMITH, of Clarkesburg, Erie county, N. Y., has written a letter to the Genesee Farmer, in which he says that the rotting of potatoes planted for seed *causes* the crop growing therefrom to decay prematurely. To cure or prevent the malady, he removes the seed potatoes before the young tubers are formed; by which he supposes that no infection is permitted to pass from the rotting old potato to the new one. This plan was first tried by Mr. S. in 1851; and if we understand him aright, it has since been tried with equal success. Where the parent tuber does not rot, Mr. S. says that its offspring are sound. His theory is ingenious, and deserving of the attention of Agricultural Societies.

Suckering Corn.

G. BLIGHT BROWNE, Esq., in an article in the Plough, Loom and Anvil, on the history and growth of Indian Corn, concludes as follows with respect to suckering:

Suckers (properly speaking) take rise from the stalk below the ground, and are capable under some circumstances to become complete plants, producing stalk, tassels, and silk; and, no doubt, if the climate would favor the enterprise, would bear ears. In the natural climate of the maize, grown on a soil undrained of its fertility by husbandry, and in the natural state, unimproved by cultivation and art, it may be able to furnish to the sucker, or second growth, sufficient nutriment to bring it to maturity. But in our climate, and limited by one short season, no such result must be expected. Maize has been by cultivation much enlarged in the grain, and greater number of grains are found on the cob of our cultivated varieties, than originally grew on the natural plant. The great desideratum of the Northern farmer is to make his corn in the allotted time, and to have his crop well matured before our early frosts. We have usually no time to lose, and there can be no doubt that any treatment which would retard the maturing of the ear, would not be a good one.

Shoots from the nodes above ground can not do much, if any harm, to the plants, because they are soon arrested in their growth. The stripping of these shoots will occasion a very bad wound, and is calculated to do more injury than good.

The case is very different with the under-ground shoot or sucker. They derive their sap from the roots of the parent plant, and consequently divert the supply, at a moment when it is most needed to assist in procreation, then going on in the parent plant. Nothing should be allowed to interfere with this function, as the early maturing of the seed depends on the vigor with which this process is prosecuted.

Therefore, on the whole, I should conclude that the shoots or suckers which start from the nodes above ground, should not be removed; and that those which have their origin below ground should be removed.

American Wool.

The British Commissioners of the Great Exhibition of 1851, have determined to form, in London, a grand universal trade-museum. Mr. Solby, their agent, has applied to Mr. P. A. Browne, of Philadelphia, to ascertain how they will be able to procure for it all the leading varieties of the best American fleeces; and Mr. Browne has recommended this direct appeal in their behalf to the sheep-breeders and wool-growers of the United States. Any one disposed to countenance this laudable design will be pleased, with as little delay as possible, to forward specimens to Mr. Browne, post-paid.

Each sample ought to be accompanied with the name and address of the donor, and also of the breeder, where he is not the donor; the name of the species, variety, or breed of both parents or ancestors of the animal from which the specimen is taken; the age, sex, probable weight, and amount and date of last clip, and the number of the flock to which he belongs, &c. All specimens, when practicable, should be *drawn out*, (not cut,) and be taken from the back, six inches in the rear of the neck.

Editors of agricultural periodicals and of newspapers are respectfully requested to insert this notice.

Feeding Poultry.

Professor Gregory of Aberdeen, in a letter to a friend, observes:—"As I suppose you keep poultry, I may tell you that it has been ascertained that if you mix with their food a sufficient quantity of egg-shells or chalk, which they eat greedily, they will lay twice or thrice as many eggs as before. A well-fed fowl is disposed to lay a large number of eggs, but cannot do so without the materials of the shells, however nourishing in other respects her food may be; indeed, a fowl fed on food and water, free from carbonate of lime, and not finding any in the soil, or in the shape of mortar, which they often eat on the walls, would lay no eggs at all with the best will in the world."—*Ex.*

Cabbages.

A correspondent of the Horticulturist says:—"It may not be generally known that cabbages readily grow and are easily propagated by slips. A stump may be put out in the spring and the sprouts as they vegetate cut off, the cut allowed to dry, and then planted. When cabbages or cauliflowers throw off side shoots they may be used in the same way. Cabbages thus raised have short stalks, and are sure of being *true* to the parent. I have often pursued this method when short of seed."

To Start a Contrary Horse.

In India, when a horse can but will not draw, instead of

whipping, spurring or burning him, as is frequently practised in more civilized countries, they quietly get a rope, and attach it to one of his fore feet, and one or two men taking hold of it, advance a few steps ahead of the horse and pull their best. No matter how stubborn the animal may be, a few doses of such treatment effects a perfect cure.—*Ex.*

For the Farm Journal.

Six Reasons for Planting an Orchard.

MR. EDITOR:—In glancing over an agricultural work this morning, I came across the following "six reasons for planting an orchard." They are so sensible, and so much to the point, that I would by permission transfer them to the pages of the Farm Journal, for the benefit of such of your readers who do not fully appreciate the benefits of a good fruit orchard on a farm. It will be too late to induce any one to plant this spring, but they can begin to get ready and have the ground prepared for planting next fall:

1. Would you leave an inheritance to your children?—plant an Orchard. No other investment of money and labor will, in the long run, pay so well.

2. Would you make home pleasant—the abode of the social virtues—plant an Orchard. Nothing better promotes among neighbors a feeling of kindness and good will, than a treat of good fruit often repeated.

3. Would you remove from your children the strongest temptation to steal—plant an Orchard. If children cannot obtain fruit at home, they are very apt to steal it; and when they have learned to steal fruit, they are in a fair way to learn to steal horses.

4. Would you cultivate a constant feeling of thankfulness towards the great giver of all good—plant an Orchard. By having constantly before you one of the greatest blessings given to man, you must be hardened indeed if you are not influenced by a spirit of humility and thankfulness.

5. Would you have your children love their home, respect their parents while living, and venerate their memory when dead—in all their wanderings look back upon the home of their youth as a sacred spot—an oasis in the great wilderness of the world—then plant an Orchard.

6. In short, if you wish to avail yourselves of the blessings of a bountiful Providence, which are within your reach, you must plant an Orchard. And when you do it, see that you plant *good fruit*. Don't plant crab apple trees, nor wild plums, nor Indian peaches. The best are the cheapest." L.

For the Farm Journal.

BROOM CORN.

MR. EDITOR:—Why is it that so little attention is paid in Chester county to the cultivation of Broom Corn. There is scarcely a farmer in the county, I presume, that supplies his family with brooms of *his own growing*, and yet he could readily do so, and sell several dollars worth besides, and that, too, with so little expense and labor in the cultivation as would make no perceptible increase of either. I have no means of ascertaining the amount expended by the farmers of Chester county in the purchase of brooms for family use, but it no doubt amounts to a *good many dollars*. Whatever it may be, however, it is just so many dollars *thrown away*, and which ought

to be applied to such purposes as purchasing fruit trees, improving the grounds around our houses, or if you please, Mr. Editor, in subscribing for the Farm Journal.

As a general rule a farmer should buy nothing that he can raise on his own land, and there is nothing easier to be accomplished than every farmer to grow and make his own brooms. As a *profitable crop*, too, Broom Corn could be grown to advantage in many situations. The Rev. HENRY COLMAN—we can have no better authority—says, that the seed is considered about two-thirds the value of oats; and that mixed with corn it is excellent for the fattening of cattle and swine. The return of seed is often precarious, but still it is frequently abundant, and will often more than pay the whole expense of cultivation and preparing the crop for market. The seed varies from twenty to one hundred and fifty bushels to the acre, according to the nature of the soil, the quality of seed, culture and season. One thousand pounds of broom, and seventy bushels of seed to the acre, are considered a fair crop in those parts of New England where special attention is devoted to the culture. The quantity rarely falls below four hundred and fifty pounds per acre, and as seldom exceeds twelve hundred. The average, at the present day, is probably seven hundred pounds to the acre, which, with very little extra attention, might be easily brought up to one thousand, now considered by many cultivators a fair crop.

In an old number of the Farmers' Cabinet, I find the following remarks by a correspondent upon this subject: "The seed of the broom corn makes excellent food for hogs and cattle. Its nutritious quality may easily be discovered from the fine color and taste which it imparts to butter from the cows which are fed on it. The best way to use the grain is to grind it with a portion of oats—say about one-third of oats to two-thirds of the seed. Indeed it is so hard and flinty that it should always be ground before feeding it to any kind of stock.

Good broom corn seed weighs about fifty pounds to the bushel. Its value compared to oats may be considered as about half as much again; so that should the market price of oats be, say, twenty-five cents per bushel, the broom corn seed would be worth thirty-seven and a half cents.

Brooms. I think there is a difference of twenty-five, if not thirty per cent., in the quality of brooms sent to market, from such as I generally use in my family. I always endeavor to procure from the manufacturer, and for which I pay him an extra price, such as are made from the stalks before the seed ripens on them. A broom made from such tops will last much longer than one made from the ripe brush. But the peculiar excellency of the broom consists in its fibres being more soft and elastic, and performing the act of brushing or sweeping, similar to the brush made of bristles, without injuring the carpet if used prudently. After the broom shall have been used in sweeping the parlor, and the finer parts worn away, it will then be as good to sweep the other parts of the house as the best new broom made from the ripe corn. Ladies who set so deservedly such a high value upon their beautiful Turkey and Brussels carpets, should purchase none other than such as are made from the unripe brush. The broom made from

such may be easily known by the color of the straw, which is that of tea or sage; the fibre or straw is much finer and of a softer feel than that made from the ripe corn—the color of which is red, or inclining to red.”

H. S.

For the Farm Journal.

“Guenon's System and James Gowen.”

MR. EDITOR:—Mr. Gowen writes with so much ability, making everything so very clear which before looked very decidedly muddy, that I fear to even venture a few remarks in reply to his last. My employments have led me hitherto only among the shallow streams of knowledge, while it is very evident Mr. Gowen has been accustomed to plunging among the deep waters, and drawing his inspirations from the accumulated wisdom, and prolific fountains of past and present ages.

To my friends, who have charged me with temerity in venturing a contest on paper with such a veteran as Mr. Gowen, where to be worsted was a certainty at the first, I must only say I wished to benefit the farming interest, and also hoped to shelter myself behind our friend Lord Bacon, whose method of reasoning I thought Mr. Gowen had departed from.

Since your last number, Mr. Editor, I have been looking over my books and historical charts, and find such a man *did* live as Lord Bacon, and that he was the author of the philosophy I then adverted to, called the inductive philosophy. Mr. Gowen, in his last, says, “Had any such tests, as are claimed for Guenon's mirrors, existed, they could not, in the nature of things, have *possibly* escaped the observations of such keen, practical and discerning men as Bakewell, Culley, Whitaker, Youatt, &c.”

By a parity of reasoning, if the present uses and applications of steam power, the daguerreotype process, the improvements in the healing art of the last fifty years, and various others in the arts and sciences, were not discovered by Dr. Franklin, Sir Isaac Newton, the elder, (not the one in Chesnut street,) and the philosophers of past ages, they are not *facts* now, and Mr. Gowen don't believe them. It was not known to the wise men of old that the earth turned round. Does it, therefore, Mr. Editor, stand still? Is not this the *reductio ad absurdum* to which Mr. Gowen's reasoning leads? Are we not learning new things every day? Have we reached the point yet in *any thing* that human intelligence and investigation may be said to be unable to go further.

I asked Mr. Gowen to show the “physiological connection between a light nose, thin neck, thin tail, points which he considers of value, and the lactescent organs of the animal.” If he cannot show this connection, neither must he object to Guenon's marks, because we are unable to show their physiological connection. The fact is, we are obliged to admit the truth of things we see around us daily, which we cannot comprehend or fathom, the whole world above, around, below, is all full of mystery, and with submission to Mr. James Gowen, it is no argument against a *fact* that we cannot understand it.

There is but one other point in his last communication worth advertising to. He says, “I should have designated the Societies in France, who examined Guenon's theory and subjected it to such severe tests.”

This is indeed astonishing, and seems to prove what I before thought, that Mr. Gowen has not even read *Guenon's* book, to say nothing about making himself master of the *system*. I have never yet seen an edition of Guenon, which does not contain the very certificates and endorsements of the learned Societies in France I alluded to, with the localities, mode of examination, award of premiums to Guenon for his discovery and all about it.

Notwithstanding all Mr. Gowen has said, I am still a believer in the SCIENCE.

For the Farm Journal.

Guenon's System Sustained by Facts.

At a public sale of fifteen dairy cows, sold by J. H. KINNARD on the 15th inst., in West Whiteland township, (within four miles of West Chester,) fourteen of them averaged \$42 44 cents; the highest priced one being \$58 50; her calf sold off two weeks previous brought \$14, making \$72 50. Not a bad price, considering she, with the other high priced ones, were selected on Guenon's system. How is it that the best marked cows, according to Guenon's rule, always bring the highest prices at our public sales, and are always sold by the owner as the best cows he has? Can the disbeliever in Guenon answer?

T.

For the Farm Journal.

The Deciduous Cypress and the Pecan Nut.

To the Editor of the Farm Journal—Dear Sir:—In a recent number, you made an enquiry of me concerning the large cypress at Bartram, to which I am happy in being able to reply. This tree is not so large as it is represented to be in Loudon's *Arboretum*, as will be seen by a comparison with his figures, and the measurements given in my recent “*Iland Book of Ornamental Trees*,” but it is, nevertheless, a magnificent tree. The soil and situation in which it is growing, corresponds, in some degree, with its naturally most favorable conditions of growth. Formerly—before the cutting of the Baltimore railroad in the vicinity—a strong spring issued near its base, and, flowing over a bed of mica, formed something akin to a swamp, on which the English ground ivy, (*glechoma hederacea*), the marsh pennywort, (*Hydrocotyle Americana*), and similar swamp plants flourished. These collecting as it were the leaves of the cypress and the pines in the vicinity, formed a situation very like its natural one, and, no doubt, contributed to its large size. The “knees” thrown up by our specimen, are not so large as those found in their native places of growth, few exceeding one foot in height—a fact which may lead us to a knowledge of the true office of these peculiar productions. Instead of mere “air collectors,” as many suppose, may they not in reality be “soil collectors?” A glance at the nature of the swamps in which they grow naturally, will show their utility—shall we say necessity? The soil of these swamps consist, for the most part, of decayed trunks and branches, and the annually falling leaves of the cypress itself. The swamps themselves, are frequently several feet *above* the level of the surrounding soil, so that it is the *tree itself*, assisted, perhaps, by an impervious subsoil, that has to form the conditions necessary for its growth. How useful, then, are these knees in the process! Without them, the winds would sweep through the trees, and carry the leaves to the low ground outside; while, as it

is, everything that falls is retained, not only to serve as food, but to add weight to maintain the tree in its position, which it would otherwise do with difficulty. In drier ground, therefore, it has less need of these knees, and they are generally smaller, and, in many cases, do not appear at all. I think this explanation of the offices of cypress knees, is, at any rate, as probable as any other, and will account for their appearance and disappearance in some situations.

Considerable attention has of late been deservedly bestowed on the Pecan nut. I have always entertained the idea that its barrenness in our locality arose from its flowers being destroyed by late spring frosts. If this prove to be certainly the case, attention will be required to produce a variety flowering later than usual, and then propagated by grafting, as a correspondent suggests. A specimen at Bartram's, 18 or 20 years old, frequently perfects its fruit; while the old specimen very rarely does so. There is, also, a fine specimen, probably thirty years old, on the ground of Mr. G. W. Holme, at Holmesburg, which Mr. H. informed me never fruited but once.

Yours truly,
THOMAS MEEHAN.

For the Farm Journal.
The Strawberry Report.

MR. EDITOR:—I was surprised to read in your last a document purporting to be part of the proceedings of the Pennsylvania Horticultural Society. Some one has practised a fraud on you, and an injustice on me—nothing of the kind having been adopted by the Society. You will, probably, receive the correction through the proper channel—the Secretary; and, pardon me for interfering in the matter, though it so nearly concerns myself. With regard to the matter itself, if our friends will have it that it “is utterly impossible” for the stamens of a strawberry blossom to become fully developed by circumstances, in cases where they otherwise are abortive, “*blighted*,” pistillate, to them let it so remain; nobody contradicting. Had the advocates of this theory confined themselves to the subject, I had long ago held my peace; as, in the commencement, at my friend Longworth's suggestion, I promised I would. But the object of many of these articles seemed to be rather to weaken public confidence in my knowledge, my honor, or my capacity to cope with the questions I had undertaken to elucidate, than to meet the subject itself. In justice to my numerous friends, it became a duty to show that I was perfectly capable of taking care of myself. This is all I have attempted to do, and though I have said more than I intended or desired, I have not said half what I might or ought to have said. Advertisements, wagers, rewards, sham proceedings of societies, consultations, national prejudices, and so on, have been invoked, and with what result? A strawberry $3\frac{3}{4}$ inches in circumference, in the month of January, HAVING NO NECK, is pronounced by some of the committee to be the Cushing!!! And, consequently, all that has been said on the subject of sexual differences, *must be* founded in error. Where is our friend with his *O tempora, O mores*?

In concluding my share of this discussion, I have but one more topic to notice. When Mr. Prince charged

me with having composed my article to the Horticulturist with the aid of Dr. Darlington, you, in your own knowledge, volunteered a denial in my behalf. In spite of your statement, Mr. P. has since reiterated the charge more strongly, and even *advertised it*. Let me show how unworthy of credit such statements are.

1st. That paper was written and forwarded before the fifth of June. Mr. Barry can, if he like, confirm this.

Secondly. I had no communication with Dr. D. till I saw him, in company with Mr. James, for a few moments, in the third week of June, when he merely alluded to the Osage Orange fruit and Indian corn. Mr. T. P. James can testify to this.

Thirdly. I did not see Dr. D.'s article till the fourth of July. Mr. Morris can confirm this, if needed.

Fourthly. On reading it, while accidentally in West Chester, I remarked to Dr. D. that my paper, sent to Mr. Barry a month before, held similar views to his own. The editor of the Journal will bear me out in this, also.

Need I care about what these gentlemen (?) say further about me?

THOMAS MEEHAN.

For the Farm Journal.
To Compute Interest.

MR. EDITOR:—I have frequently had occasion to compute the interest on my sales or purchases, for a number of days, and just as frequently have I found myself *bothered* to calculate the amount speedily and correctly. I remember enough arithmetic from my schoolboy days, to calculate the interest for a given number of years or months, without any trouble, but the *days* rather cornered me.

In a late Baltimore paper a correspondent gives the following plan for computing interest at 6 per cent. for any number of days, which I would like to see preserved in the pages of your valuable Journal. Some of your readers may be as “slow” at calculating interest as I have been, and they will find this plan a very convenient one. I have tested its correctness thoroughly:

Divide the number of days by six, and multiply the dollars by the dividend, the result is the interest in decimals; cut off the right hand figure and you have it dollars or cents—thus:—

What is the interest on \$100 for twenty-one days? 21 divided by six is $3\frac{1}{2}$; 100 multiplied by $3\frac{1}{2}$ is 350, or 35 cents. Again: What is the interest on \$378 for ninety-three days? 93 divided by 6 is $15\frac{1}{2}$; 378 multiplied by $15\frac{1}{2}$ is 5859, or \$5,85 and 9-10. G. W. P.

Mifflin County Agricultural Society

The Mifflin County Agricultural Society met in the Town Hall on Wednesday evening, the 5th inst. Gen. David Milliken was called to the Chair, James McCord and James Moore were appointed Vice Presidents, and George Frysinger, Secretary.

A vote of thanks was then given to the late President, who, it was understood, declined a re-election.

The following officers were elected for the ensuing year:

PRESIDENT—Cyrus Stine, Esq.

VICE PRESIDENTS—Thomas J. Wilson, Robert Milliken, James H. Alexander, George H. Calbraith, Adam Hershberger, and Shem Zook.

SECRETARY—James Parker

ASSISTANT SECRETARIES—George Frysinger and Henry J. Walters.

COR. SECRETARY—Dr. Joseph Henderson.

TREASURER and LIBRARIAN—Thomas W. Moore.

EXECUTIVE COMMITTEE, in addition to other officers—Gen. David Milliken, William Mitchell, James McCord, John Ruble, Thomas Stoneroad.

Northumberland County Agricultural Society.

PRESIDENT—Samuel John.

VICE PRESIDENTS—John Montgomery, Elijah Crawford, Charles Riddle, Samuel Hepburn, James Cameron, J. C. Hinton, J. R. Priestley, Geo. C. Walker, Jacob Seesholts, John Baker, Benj. Gearhart, Wm. B. Muench, Wm. Atwater, Peter Weikel, Daniel Beckley, Peter Swartz, Wm. Deppen, Geo. Brosious, Isaac Raker, Felix Maurer.

CORRESPONDING SECRETARY—David Taggart.

RECORDING SECRETARY—W. J. Grenough.

TREASURER—W. L. Dewart.

EXECUTIVE COMMITTEE—A. E. Kapp, Elida John, W. M. Weaver, Abraham Straub, Wm. Forsyth, Jacob Painter, Kimber Cleaver.

Berks County Agricultural Society.

A Stated meeting of the Executive Committee of the Berks County Agricultural and Horticultural Society, was held at their room in the Court House, Reading, April 11th, 1854, at 1 o'clock.

Gen. GEORGE M. KEIM, in the Chair.

The President reported the following Committee of Arrangements for the ensuing year:

George R. Frill, Daniel Housum, Ezra Z. Greisemer, Maj. Adam Lize, George W. Oakley, David L. Wenrich, R. F. Brown, Michael Miller, A. F. Boss, Joseph Hemmig, Joseph Henry, William D. Haines, Daniel Schneider, sen., Henry Flannery, Charles Kessler.

The following resolutions were adopted.

Resolved, That our next Annual Exhibition be held on the first Wednesday of October, and continued for three days.

Resolved, That the Committee of Arrangements be instructed to offer premiums for the best five acres of Wheat, Rye, Corn, Oats, &c., and also for the second best; also to offer the same premiums for the best acre of the same product.

Resolved, That the Committee of Arrangements be instructed to appoint sub-committees to ascertain what amount can be obtained, by private contribution, from the citizens of Reading, for the purpose of defraying the expenses of bringing to our exhibition any stock from other counties.

Adjourned.

R. F. BROWN, Secretary.

Juniata County Agricultural Society.

We are indebted to our friend L. BURCHFIELD, Esq., for the following list of officers of the Juniata County Agricultural Society for 1854:

PRESIDENT—Everard Oles, Esq.

VICE PRESIDENTS—James Anderson, Wm. Banks, J. H. McAllister, James Guilford, Jacob Koons, John Beale, John Woodside, Samuel M. Adams, Daniel Westfall, David Castler.

REC. SECRETARY and TREASURER—J. A. Christy, Esq.

COR. SECRETARY—L. Burchfield.

MANAGERS—Joseph Pumroy, John Jacobs, S. Brown,

E. P. Thompson, John Kepner, Joseph Rothrock, Wm. Bell.

County Societies in Ohio.

Of the eighty-eight counties in the State of Ohio, seventy-five have an organized agricultural society, and held fairs last year. This far exceeds those of any other State in the Union. Of the thirty-one States, seventeen have State fairs.

PENNSYLVANIA FARM SCHOOL.

We annex below the act for the establishment of a State Farm School, under the auspices of the State Agricultural Society. We congratulate not only farmers, but citizens of all classes, on this happy consummation, which will, if rightly managed, redound so much to the substantial wealth and prosperity of our good old Commonwealth.

The establishment of the Farm School was looked upon by many as one of the results certain to follow the formation of the State Society, and to those who were the pioneers in originating the latter and urging it forward to its present prosperous footing in the face, too, of much opposition, great credit is very justly due. As a matter of history we quote the following from the minutes of the Philadelphia Society for Promoting Agriculture, in reference to this subject. Nov. 5, 1845, Dr. Mease being President:

"On motion of Dr. Elwyn, a committee of seven members was appointed for the purpose of ascertaining the disposition of agriculturists in the different counties in this State, on the subject of establishing a State Agricultural Society for the benefit and advancement of agriculture throughout the State. Elwyn, Hulme, Potts, A. L. Roberts, Gowen, Kenderton, Smith and Moore were appointed the Committee."

"Nov. 1st, 1848.—On motion of Dr. Elwyn, a Committee of five was appointed for the purpose of conferring with the Agricultural Society of Bucks county, and also those of adjoining counties, with a view of giving greater force and effect to the operations of the different societies in their efforts to promote the cause of agricultural improvement."

"Jan. 3d, 1849.—The Committee appointed to confer with the Bucks County Society, reported having met, and agreed to appoint a Committee to confer with gentlemen in other counties on the subject of a State Agricultural Society, and to meet again Jan. 6th, 1849."

At this postponed meeting very little appears to have been done, and the subject rested till the 5th of December, 1849, when the President of the Society, Dr. Elwyn, appointed a committee to take measures towards the formation of a State Society as follows: Messrs. Gowen, A. L. Roberts, J. P. Wetheral, J. C. Ford, Robert Hare, to which Dr. Elwyn's name was afterwards added.

Feb. 6, 1850.—The above committee was continued, and an address prepared by Dr. Elwyn to the farmers of Pennsylvania was read by Mr. Freas, and placed in the hands of the chairman, Mr. Gowen.

"March 6.—Mr. Gowen read an address, which was afterwards published."

"In May, 1850.—Mr. A. L. Roberts moved that the

Committee be instructed to recommend a Convention to be held in Harrisburg."

The above being all the information we have been able to collect, seems to show that the first movement with reference to a State Agricultural Society took place in the Philadelphia Society for Promoting Agriculture. Without a State Society there would have been no State Farm School, and as we consider the latter will, if rightly managed, prove hereafter to be one of the most important movements of the present times, it is desirable that the high honor of originating it should be placed where it properly belongs.

AN ACT

To incorporate the Farmers' High School of Pennsylvania.

SEC. 1. *Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania, in General Assembly met, and it is hereby enacted by the authority of the same,* That there be, and is hereby erected and is established at the place which shall be designated by the authority, and as hereinafter provided, an institution for the education of youth in the various branches of science, learning and practical agriculture, as they are connected with each other, by the name, style and title of the Farmers' High School of Pennsylvania.

SEC. 2. That the said institution shall be under the management and government of a board of trustees, of whom there shall be thirteen, and seven of whom shall be a quorum, competent to perform the duties hereinafter authorized and required.

SEC. 3. That the President and Vice-Presidents of the Pennsylvania State Agricultural Society, and the Presidents of the several county agricultural societies, which shall at any time have been organized more than one year, shall be *ex-officio* members of and constitute the board of trustees; which said trustees and their successors in office are hereby erected and declared to be a body politic, and corporate in law, with perpetual succession, by the name, style and title of the Farmers' High School of Pennsylvania, by which name and title the said trustees and their successors shall be able and capable in law to take by gift, grant, sale, or conveyance, by bequest, devise or otherwise, any estate in any lands, tenements and hereditaments, goods, chattels or effects; and at pleasure to alien or otherwise, dispose of the same to, and for the purposes of the said institution: *Provided, however,* That the annual income of the said estates so held shall at no time exceed twenty-five thousand dollars; and the said corporation shall, by the same name, have power to sue and be sued, and generally to do and transact all and every business touching or concerning the premises, or which shall be necessarily incidental thereto; and to hold, enjoy and exercise all such powers, authorities and jurisdiction, as are customary in the colleges within this Commonwealth.

SEC. 4. That the same trustees shall cause to be made a seal with such devices as they may think proper, and by and with which all the deeds, diplomas, certificates and acts of the institution shall be authenticated; and they may at their pleasure alter the same.

SEC. 5. That on the second Thursday of June, after the passage of this act, the board of trustees, who are hereby appointed, shall meet at Harrisburg, and proceed

to the organization of the institution and selection of the most eligible site within the Commonwealth of Pennsylvania, for its location, where they shall purchase or obtain by gift, grant or otherwise, a tract of land containing at least two hundred acres, upon which they shall procure such improvements and alterations to be made, as will make it an institution properly adapted to the instruction of youth in the art of farming, according to the meaning and design of this act; they shall select and choose a principal for the said institution, who, with such scientific attainments and capacity to teach as the Board shall deem necessary, shall be a good practical farmer; he with such other persons, as shall from time to time be employed as teachers, shall compose the faculty, under whose control the immediate management of the institution and the instruction of all the youth committed to its care, shall be subject, however, to the revision and all orders of the board of trustees; there shall be a quarterly meeting of the board of trustees at the institution, and as much oftener as shall be necessary; and that the aforesaid board shall have power to pass all such by-laws, ordinances and rules as the good government of the institution shall require, and therein to prescribe what shall be taught to, and what labor performed by, the pupils, and generally to do and perform all such administrative acts as are usually performed by and within the appropriate duty of a board of trustees; and shall, by a secretary of their appointment, keep a minute of the proceedings and action of the board.

SEC. 6. That it shall be the duty of the board of trustees, as soon and as often as the exigencies of the institution shall require, in addition to the principal, to employ such other professors, teachers or tutors as shall be qualified to impart to pupils under their charge, a knowledge of the English language, grammar, geography, history, mathematics, chemistry and such other branches of the natural and exact sciences, as will conduce to the proper education of the farmer; the pupils shall themselves at such proper times and season, as shall be prescribed by the board of trustees, perform all the labor necessary in the cultivation of the farm, and shall thus be instructed and taught all things necessary to be known by a farmer, it being the design and intention of this law to establish an institution in which youth may be so educated as to fit them for the occupation of a farmer.

SEC. 7. That the board of trustees shall annually elect a treasurer, who shall receive and disburse the funds of the institution, and perform such other duties as shall be required of him, and from whom they shall take such security for the faithful performance of his duty as necessity shall require; and it shall be the duty of the said board of trustees annually, on or before the first of December, to make out a full and detailed account of the operations of the institution for the preceding year, and an account of all its receipts and disbursements, and report the same to the Pennsylvania State Agricultural Society, who shall embody said report in the annual report, which, by existing laws, the said society is bound to make and transmit to the Legislature, on or before the first Monday of January of each and every year.

SEC. 8. That it shall be lawful for the Pennsylvania State Agricultural Society to appropriate out of their funds to the objects of this act, the sum of ten thousand

dollars, whenever the same shall be required, and to make such further appropriations annually, out of their funds, as will aid in the prosecution of this object; and it shall be the duty and privilege of the said society, at such times as they shall deem expedient, by their committees, officers or otherwise, to visit the said institution, and examine the details of its management.

Approved the 13th day of April, 1854.

WILLIAM BIGLER.

HORTICULTURAL IMPLEMENTS.

With the view of adding to the very great interest, to be seen both in town and country at the present time, in favor of agricultural and horticultural pursuits, we annex a few cuts of *improved* implements, which should be found in every garden and orchard, and are indeed necessary, each for its particular purpose. A complete set of tools, well made, with a place to keep them in, something like the admirably arranged tool house, (portrayed in a former number,) of our friend Townsend Sharpless, contributes greatly to the zest and enjoyment of either the practical or amateur gardener. However little a man or a woman may work in the garden or orchard, there is a satisfaction in doing it well and nicely, with a suitable and convenient implement. A limb or shoot wants to be lopped from a favorite pear tree. If to do this one must send to a neighbor to hunt up a heavy ladder, which perhaps is twice as long as necessary, if a common carpenter's saw, intended for dry timber, has to be hunted up in addition, which is altogether unsuitable for green wood, the probability is too much time will be lost, and the over luxuriant branch will have to remain. The light folding ladder, and the pruning saw and chisel,

and many more might be cited of the improvements in all kinds of tools, and their construction for particular uses. We believe there is a real wholesome, moral influence produced in a family, or on a farm, by such arrangements as the tool house of our friend T. Sharpless in our February number. The habits of *order, system and method*, induced particularly on the young, are highly important.

Formerly a heavy iron hoe, spade and axe to chop off limbs, were considered all that was necessary about the garden or orchard. Now we have, first, the fruit or folding ladder, light and yet strong and convenient; when shut up, as in the right hand figure, it can be laid away in a corner, or on a shelf, and occupy but little room. It is very portable, is made of different lengths, and can be placed among the branches of the tree with great facility. It can also be used for washing windows and other domestic purposes, and may be found valuable in cases of fire from its great facility of moving about.

Fig. 2 is the averancator or pruning shears, which is attached to a pole and operated by means of a lever moved by a cord and pulley. It enables a person standing on the ground to prune trees, the branches of which could not well otherwise be reached. Branches an inch in diameter may readily be cut off with them. They are used with great advantage for cutting off ends of limbs to which insects are attached, and scions and buds from the topmost branches.

Fig. 3 is a pruning saw and chisel fastened on a long handle, also used for trimming trees. The blade of the saw is about 12 inches long, and the chisel 3 inches wide, made of the best cast steel. It is also a valuable implement.

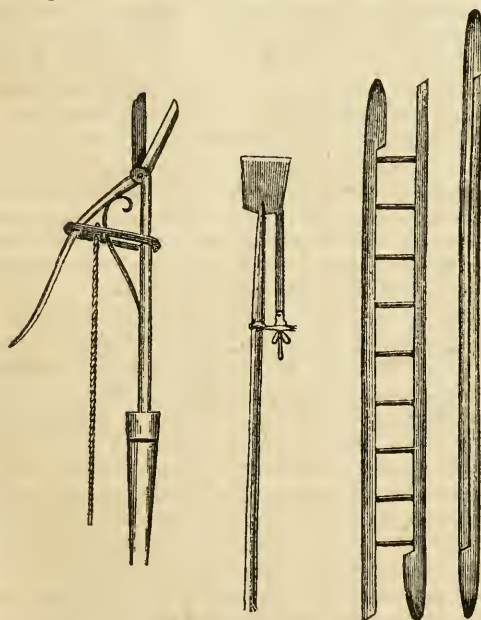


FIG. 2.

FIG. 3.

FIG. 1.

or averancator, with a long handle, figured below, if convenient as they should be, in a room suitable for the purpose, would convey to the mind a pleasant idea of their exact adaptation to the purpose, and confer a real enjoyment on the operator. This is merely one instance,

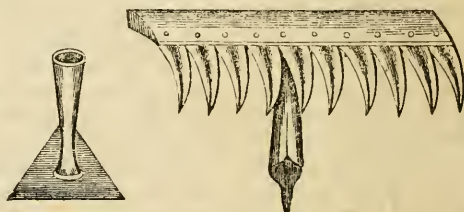


FIG. 4.

Fig. 4 is a grass lawn rake, having teeth sharpened on both edges, and is used for raking clean, grass plots and lawns, and also cutting off flower heads or buds of daisies, dandelions, and uneven tufts, which cannot be done with ordinary rakes.



FIG. 5.

Fig. 5 is a floral rake with six teeth, and a polished steel hoe blade upon the opposite side, with handle 15 inches long, for weeding beds, and is a very neat implement for ladies' use.

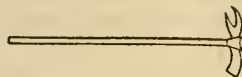
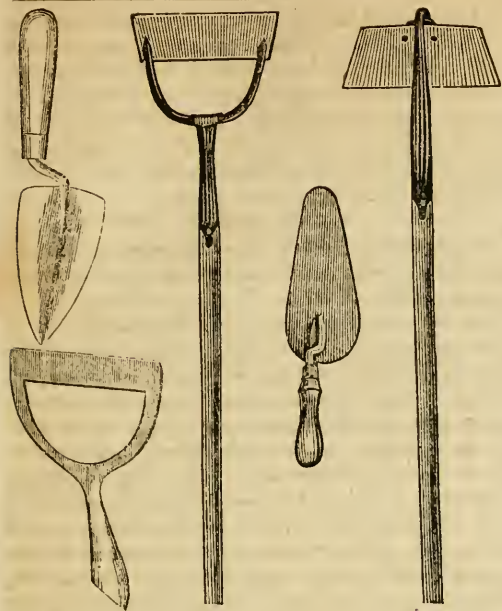


FIG. 6.

Fig. 6 is a convenient little pronged hoe or weeder.



FIGS. 7, 8, 9, 10, 11,

represent a light cast steel garden hoe, transplanting trowels and scuffle hoes. These latter are exceedingly valuable in the garden, performing their work much better, in half the length of the time of the hoe. We would not have a garden without one. The operator walks backwards, thus leaving the ground newly worked and untrodden. They stir up the soil beautifully, and can be worked very nicely around the plants. They are also exactly adapted for cleaning walks of weeds, grass, &c., and are made of different sizes from three to twelve inches wide.

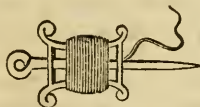


FIG. 12.

Fig. 12 is a garden reel and line, made of cast steel or wrought iron, and is indispensable for laying out beds and walks with regularity. The axle is extended so as to stick in the ground when the desired length of line is run off. An iron rod also accompanies for the other end of the line. This reel will last for many years.



FIG. 13.

Fig. 13 is a grass edging knife, fitted to a straight handle, used for paring the edges of grass bordering walks, and cutting the outlines of sods, which may then be raised with the spade.



FIG. 14.



FIG. 15.

Figs. 14 & 15 are bill hooks, used for cutting small bushes, briars, and for pruning hedges, and may be used with one hand. Those with longer handles require both hands, and can be used where the branches cannot be reached with the other.

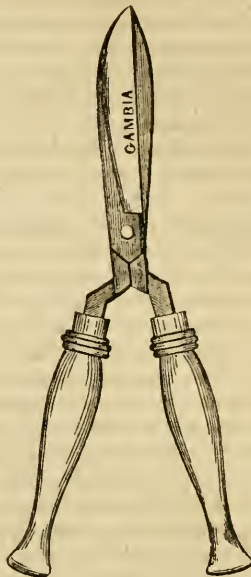


FIG. 16.

Fig. 16 are large garden shears, used for trimming hedges, shrubbery and box edging. They come of various sizes, and are adapted for ladies' use.

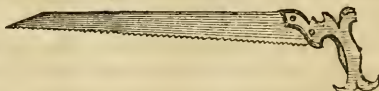


FIG. 17.

Fig. 17 is a very convenient grafting saw, for sawing off small limbs, previous to splitting for inserting the graft.

We shall continue these illustrations in next number.

THE CONCORD GRAPE.

Some of the New England States, and especially the atmosphere around Boston, appear to be the prolific source of the most extraordinary productions, both in fruit, flowers and vegetables, on this continent. Nothing small or inferior originates near Boston. Her pumpkins and strawberries are the largest, her seedling pears, cherries and seedling verbenas, are said to surpass every thing yet known, and when the Diana or some other of her own seedling grapes, gets a little stale, and some fresh novelty is wanted, the Boston nurserymen are ready for the occasion, and manage to get hold of something else near to keep up the excitement. The Concord Grape is now fairly launched, and Messrs. Hovey & Co. offer to furnish one year old vines at the low price of \$5 each,

or \$40 per dozen to the trade. This extraordinary grape is thus spoken of by Messrs. Hovey:

"This remarkably fine American variety is the greatest acquisition which has ever yet been made to our hardy grapes, and supplies the desideratum, so long wanted, of a superior table grape, sufficiently hardy to withstand the coldest climate, and early enough to ripen its fruit in any part of the Northern or New England States.

"It is a most vigorous growing vine, perfectly hardy, with bunches of large size, handsomely shouldered, often weighing a pound, and with large, roundish oval berries, frequently measuring an inch in diameter, color very dark, covered with a thick blue bloom, flesh free from all pulp, flavor very rich and luscious, with a fine sprightly aroma. The foliage is large, broad and thick, and the berries have never been known to moulder, rot, or drop off, under any circumstances, during the five years since it has borne fruit. All good judges who have tasted it pronounce it far superior to the Isabella in its ripest condition."

If the above description is not calculated to make one's mouth water, and to enclose a \$5 note at once, by the first mail, to secure a vine of the Concord grape, it will be, when a further notice is read, "that orders will be attended to in the rotation in which they are received." This seems to indicate the danger of delay.

We, of course, have not tasted the Concord grape, and should not have had a word to say about the above glaring description, but that a cotemporary, also published at Boston, dissents from Mr. Hovey's opinion, and says, "before the Concord was placed in his hands for sale, he spit it out of his mouth as a poor thing;" and "among the good judges, who do not pronounce it superior to the Isabella, are the present President of the Massachusetts Horticultural Society, the Chairman of the Fruit Committee, and the two surviving Ex-Presidents." The editor of the Practical Farmer says, he sat within a yard of Mr. Hovey, at the annual dinner of the Horticultural Society, when the Concord grape was very generally pronounced by good judges "to be good for jellies."

Messrs. Hovey & Co. also advertise that they possess the *entire stock* of the "Boston Pear," and the "Hovey Cherry." The former can be had at \$5 each, a *few* large trees at \$10 each, and the Hovey Cherry at \$5 each. They also advertise *new seedling* verbenas fully equal to "America." We have had America in our collection, and should suppose unless they are *fully equal* to it they would not be worth much.

Should any of our friends determine to possess themselves of any of the above novelties, we hope they will request Mr. Hovey to pack in the bundle for us some samples of the genus *Egilops*, during its several stages of transformation into "*Triticum*." He devoted several pages of his Magazine, in an editorial article, to prove this possible, and as having been done, and although repeatedly requested in our Journal to send on specimens to us has failed to do so. Probably he dislikes to tax us with freight. This difficulty can be obviated in the plan now proposed.

Heavy Sheep.

A London correspondent of the National Intelligencer, says he had heard much of the great weight to which sheep

are sometimes fad in England, and his belief was really staggered by some of the reports; but he saw in one butcher's shop, four sheep, which had been raised and in Gloucestershire whose weight when slaughtered and dressed for sale as mutton was 250, 245, 216, and 197 pounds respectively. A shoulder, cut fairly from the largest, weighed 42½ lbs. Two Lincolnshire sheep in the same shop weighed 216 and 201 pounds respectively.

BOOK NOTICES.

ELLIOTT'S FRUIT BOOK, or the American Fruit Grower's Guide in Orchard and Garden, by F. A. ELLIOTT, near Cleveland, Ohio.

The above work, which has been long expected, has at last appeared, and from the examination we have been able to make, consider it a valuable addition to our list of fruit books. The author is well known as an experienced and careful pomologist, and his book is the result of ten years close personal observation, as well as aid derived from other practical growers, and reliable authorities. He describes minutely the characteristics of over 900 names & synonyms of apples, 400 cherries, 900 pears, 400 peaches, 300 plums, 180 grapes, besides gooseberries, currants, raspberries, strawberries, &c. The subjects of propagation, culture, pruning, packing trees, keeping of fruit, soils, exposure, and specific manures are also severally well treated.

It is especially valuable in making us acquainted with many native fruits of the west and north western sections of our country, not much known here, but which are well worthy of trial from their very superior qualities, among which are the celebrated Cleveland cherries.

The work is well illustrated with cuts, a new feature of which is exhibiting the internal structure of fruits, their size, and arrangement of cores, seeds, &c., which, as is well remarked, are often more sure guides to indicate varieties than the external form. We extract in present number illustrations and descriptions of fruits, to show more distinctly the plan pursued. The same variety often varies so much in external characters, as to make it very difficult to be recognised, even by the most careful pomologist, without reference to the growth and form of the tree. The internal structure, as exhibited in the book before us, will be a great additional help. Every fruit grower should have a copy of it.

THE CULTURE OF THE GRAPE AND WINE MAKING by ROBERT BUCHANAN, with an appendix, containing directions for the Cultivation of the Strawberry by W. LONGWORTH, of Cincinnati.

The publishers have obligingly forwarded us a copy of the above valuable treatise, containing a large amount of information about grape vines and vine yards, their propagation, culture, diseases, insects, spring and summer pruning, cost and profit to the acre, with the art of making wine, gathering and pressing the grapes, fining the wine, &c. It, in fact, embodies all the experience of the vicinity of Cincinnati in grape culture and wine making, which is saying sufficient to make the work sell even as a matter of general interest and curiosity. The Cincinnatians are the best authority on these matters. We wish we could say as much for them about strawberries. It appears, within a circle of twenty miles around Cincinnati, there are 1200 acres under vine culture, produ-

ducing on an average 240,000 gallons of wine annually. The number of acres now in bearing is 740, containing to the acre of vines, at a distance of three by six feet, 2400 plants. We have no doubt there are many portions of Pennsylvania, where vineyards could be planted to great profit.

The appendix on Strawberry Culture, by N. Longworth, who is so identified with the great "Strawberry Question," is also interesting. We shall publish in next number, the report of the committee to whom was referred the investigation of the sexual character of the strawberry. They seem to have arrived at certain conclusions or postulates. Dame Nature has many vagaries in her disposition, and it is doubtful if she will allow her freaks and fancies to be disposed of in that style. Matters of *fact* are not always settled by *resolutions*. President Polk premised in his message to Congress, "Whereas war exists by the *act* of Mexico." Some people did not believe it notwithstanding.

PEDDER'S LAND MEASURER.—A new edition by C. M. SAXTON, New York.

This little work has never been so well appreciated as it deserved. It is highly useful and valuable to the farmer, containing tables sufficiently accurate for all practical purposes, for finding the contents of any piece of land from dimensions taken in yards, also tables for manuring land, tables of planting distances, tables for plowing, measuring corn in the crib, measuring live cattle, &c.

In hauling the manure, spreading lime, plaster, &c., a certain quantity to the acre, which is now generally done by guess work, the farmer will find it highly useful. The author was formerly editor of the Farmer's Cabinet, now of the Boston Cultivator.

Either of the above works, with most others on agriculture and horticulture, may be obtained at Paschall Morris & Co.'s agricultural warehouse, West Chester, and corner of Seventh and Market streets, Philadelphia, and at the book stores generally.

The "PRACTICAL FARMER" is a new and attractive looking visitor upon our table. It takes the place of the New England Cultivator, and is under the management of Wm. S. KING, the accomplished Editor of the "Journal of Agriculture," assisted by Prof. Mapes and L. Bartlett. Published weekly in Boston, at \$2 per annum.

The "WORKING FARMER," since the commencement of the fifth volume in March, also comes to us in a new dress and otherwise improved. It will be illustrated in future with cuts of improved stock, implements, &c., thus giving increased attraction to this popular work. Published monthly in New York by F. McCready, at \$1 per annum.

The "COUNTRY GENTLEMAN" is now in its third volume, and more than sustains the high character anticipated for it. In mechanical execution, and general appearance, it stands in the front rank of the agricultural press. Published weekly in Albany, N. Y., by Luther Tucker, at \$2 per annum.

"ALCOHOL, and the Constitution of Man," being a popular and scientific account of the chemical properties of alcohol, and its leading effects upon the healthy human constitution. Illustrated by a beautifully colored chemical chart. This publication is intended to dif-

fuse a kind of information among the people in which they are too generally deficient. The effects of alcohol upon both the mental and physical condition of man are very ably discussed and forcibly illustrated. The work is very interesting as well as useful, and should be generally circulated.

Extracts from the Proceedings of the Philadelphia Society for Promoting Agriculture.

[We have been requested to publish the following extracts from the proceedings of a stated meeting of the Philadelphia Society for Promoting Agriculture, held April 5th, 1854. It will be remembered that Mr. GOWEN, in a communication published in the February number of the Farm Journal, called in question the regularity and deliberation of the Society, in reference to the appointment and report of a committee selected to investigate Mr. NEFFLIN's version of "Guenon's theory." The remarks of Mr. Gowen caused some feeling among the members, particularly as the recollection of many of them did not correspond with Mr. Gowen's statement. Under these circumstances the matter was brought before the Society at its last stated meeting. The following is the report of this portion of the proceedings as published in the Germantown Telegraph:]

Mr. ISAAC NEWTON called attention to an article in the Farm Journal, by Mr. JAMES GOWEN, in which the author criticises the conduct of Mr. NEWTON and others. Several members objecting to the introduction of personal differences on the floor, the Chair sustained the objection, but stated that if any portion of the article reflected on the Society, it might be introduced: when a motion was obtained that the article, so far as it referred to the acts of the Society, be read by the Secretary, which was done.

On a motion that he be allowed to explain, Mr. GOWEN disclaimed all intention of disrespect to the Society, but mentioned that the manner of the appointment, in December, 1852, of a committee to examine the merits of GUENON's method of determining the milking properties of cows, was informal, because it had been done by the Society, and not by himself, who was then presiding. He further affirmed that the report of said committee, submitted at the subsequent meeting, was verbal, and that it had been adopted without due reflection.

Several members, who had been present at the adoption of the report, certified that it had been presented in writing and properly considered.

On motion, that the minutes of the two meetings aforesaid be read, which was so ordered, when it appeared on the record, that the report had been read and ordered to be printed, if its authors approved.

Dr. KENNEDY submitted the following resolution:

Resolved, That the action had at a meeting of the Society, held December, 1852, appointing a Committee on the subject of Guenon's method of determining the value of milch cows, was perfectly regular, and that the report of said committee, at the following meeting, was regularly made, read and approved.

After some remarks in favor of the resolution by Mr. J. C. MONTGOMERY, and in opposition by Mr. JAMES GOWEN, it was adopted unanimously.

Quantity of Seed to the Acre for Root Crops.

Parsnip seed should be sown in drills, and about four lbs. to the acre will be required. This will be increased or diminished, according to the skill with which it may be sown. A little radish seed dropped along the rows at the same time will soon indicate them, and allow the ground to be stirred early, before the parsnip has germinated. We consider parsnips one of the most valuable and desirable roots which can be grown for stock. They will readily yield nine to ten tons to the acre. Davy found 1000 parts to yield 90 parts of saccharine matter and 9 of mucilage. Sow in May. Of ruta бага or turnip seed three-fourths to one lb. per acre will be sufficient.

Carrot seed should be sown in drills about one inch deep, and from three to five lbs. to the acre. There is an advantage in rubbing the seed well between the hands, before sowing, to break off the hairy edge, which causes them to adhere so as to prevent regular distribution. Radish seed may also be sown with it as with parsnips. Carrots are a highly valuable crop, and yield from 600 to 1000 bushels to the acre. According to Antoine's tables 276 lbs. of carrots are equal to 100 lbs. of hay. They are coming greatly into use for feeding horses through winter, giving them sleek coats and greatly promoting digestion. J. C. Curwen, of England, who was in the habit of constantly employing eighty horses on his farm and coal mines, says that where eight lbs. of oats feeding was allowed to draft horses, four lbs. might be taken away and supplied with an equal quantity of carrots, and the ability of the horses be quite equal to that from the whole quantity of oats. In his opinion an acre of sarrots supplied food for working horses equal to fifteen acres of oats.

Sugar beet or mangel wurzel will require three to four pounds to the acre, and should be steeped before being planted, and rolled in plaster. Plants which are transplanted do not grow so well as the others, besides the additional disadvantage of the time and labor required for the purpose.

For general rules in root culture, we advise plenty of seed. It is much easier to thin out than to transplant, and much more economical. Manure heavily, plow deep, and thoroughly pulverise. Plant on the level, and not on ridges. Keep the ground well stirred and free from weeds. We hope every reader of the Farm Journal will experiment the present season, to some extent at least, with root culture. Put in a portion of each kind, and give us the comparative results.

A Fanciful Gate.

A correspondent of the *Home Journal* gives a pleasant account of a gate he passed through. The gate was a common one, shut by a chain and ball. But the post to which the inner end of the chain was attached was carved and painted in the likeness of a negro, with one hand raised to his cocked hat, and the other extended to welcome you in. As you opened the gate toward you, in going in, the negro post-pointer bent toward you, by a joint in his back fairly bowing you in. Upon letting the gate go to, a spring in his back "brought him up standing" again, ready for the next comer. This faithful fellow performed the amiable for his master for many years,

without reward, except now and then a new coat—of paint; and finally died of a rheumatic back, contracted in his master's service.

DOMESTIC RECIPES.

BEEF STEAKS BROILED.—The inside of the sirloin is the best steak—but all are cooked in the same manner. Cut them about half an inch thick—do not beat them: it breaks the cells in which the gravy of the meat is contained and renders it drier and more tasteless.

Have the gridiron hot and the bars rubbed with suet—the fire clear and brisk; sprinkle a little salt over the fire, lay on the steaks, and turn them often. Keep a dish close to the fire, into which you must drain the gravy from the top of the steak as you lift it to turn. The gridiron should be set in a slanting direction on the coals, to prevent the fat from dropping into the fire and making a smoke. But should a smoke occur, take off the gridiron a moment, till it is over. With a good fire of coals, steaks will be thoroughly done in fifteen minutes. These are much healthier for delicate stomachs than *rare done steaks*.

When done lay them in a hot plate, put a small slice of good butter on each piece—sprinkle a little salt, pour the gravy from the dish by the fire, and serve them hot as possible. Pickles and finely scraped horse-radish are served with them.

MUTTON CHOPS.—Cut the chops off a loin or the best end of a neck of mutton; pare off the fat, dip them in a beaten egg and strew over them grated bread, seasoned with salt and finely minced parsley—then fry them in a little butter, and make a gravy, or broil them over coals and butter them in a hot dish. Garnish with fried parsley.

CURRIES.—Chickens, pigeons, mutton chops, lobsters and veal, all make good curries. If the curry dish is to be made of fowls, they should be jointed. Boil the meat till tender, in just sufficient water to cover it, and add a little salt. Just before the meat is boiled enough to take up, fry three or four slices of pork till brown—take them up, and put in the chickens. Let them brown, then add part of the liquor in which they were broiled, one or two tea spoonfuls of curry powder, and the fried pork. Mix a tea spoonful of curry powder with a tea cup of boiled rice, or a little flour and water mixed—turn it on to the curry, and let it stew a few minutes.

Fire-Fanged Manure.

The season of the year has arrived when stable manure is prone to fire-fang—a chemical change that lessens its value from 50 to 60 per cent. To prevent such a loss is an object of much importance in farm economy, and we will endeavor to explain the subject in a way that will render it plain to all interested in providing food for plants.

Few are ignorant of the fact that a mass of dung thrown from a stable, and particularly that from horses and mule, is apt to *heat*, and sometimes it proceeds to spontaneous combustion. This heating is not injurious, if only moderate in degree, for it always precedes, and attends fermentation, whether vinous or putrefactive. The latter is what the skillful farmer desires to increase the solubility of manure; for Nature *rots* vegetable and animal substances to prepare their elements for reorganization in the cells of living, growing plants. Fire-fanging is a peculiar chemical operation analogous to burning wood into coal, or charring hay and straw by imperfect combustion. It not only checks putrefactive fermentation in a manure heap, but drives off in a gaseous state all the nitrogen and ammonia it may contain. Half burnt dung and straw (fire-fanged manure) refuses to ferment, rot, or dissolve for the nourishment of crops, for a long time after it is buried in tilled ground. Hence, it is not too much to say that a farmer who allows his dung-heaps to fire-fang really loses nearly three-quarters of the value of the same, and often more than that.

How one can best prevent this excess of heating is the point now to be considered. It is done simply by spreading the manure over a greater surface so thin as not to heat at all, but thicker or thinner according to the weather and the nature of the manure. To adopt the language of farmers, some excrements are of a more heating nature than others; and no one rule will apply to every condition and composition of the dung-heap. It should not, however, be long exposed to the open air, rain, and sunshine, but be covered over with loam, clay, or vegetable mould. In this State Scotch farmers call their dung-heaps "pies;" the covering of earth being the upper crust, and of clay or leaf-mould being the under crust. The right management of these "pies" is quite as difficult as the management of a coal-pit, or burning brick-kiln. All air must not be excluded, for that would arrest decomposition. To learn the condition of the mass, the farmer sticks a stake into it, which being drawn out, he learns from the steam, gases and temperature of the air that issue forth, how his pie is baking. If the heat is too great, the heap should be forked over immediately to cool it, as you would separate the sticks in a burning brush heap; or you may cover it deeper and closer to exclude the air as you would close the draft in a coal-pit, a lime or brick-kiln. If water is convenient, make stake holes into the heap and pour water into them just enough to put out the latent fire below.

To avoid all loss and labor of this kind, we prefer to haul most of our manure in a raw, unfermented state, into the field, spread and plow it in at once, and let it rot in the soil. This course is not always practicable, and the dung has to be preserved in some form for future use. To have it rot and at the same time decompose a good deal of cornstalks, straw and forest leaves, mixed therewith, and loss nothing of its volatile elements, is the end to be aimed at. D. LEE.

[*Southern Cultivator.*]

From the Journal of the United States Agricultural Society.

EXPERIMENT IN FEEDING.

BY JOHN BROOKS, OF PRINCETON, MASS.

Herewith, you have an account of some trials in feeding, which I have made at the time mentioned, with a view to determine the regular value of different kinds of food for producing milk, and the proportion of solid manure to the hay consumed.

December 17, 1851, commenced feeding two cows about 7 months after calving; the cows were gravid and expected to calve about March next, live weight 1600 lbs., one of them 44 and the other 31 months old. Each trial continued 5 days:

First 5 days fed on 2 per cent of live weight,	
of hay cut daily.....	32 lbs.
2 lbs. of Indian Meal, hay value.....	8 "
Hay value of daily food.....	40 "
Hay value of 5 days food.....	200 "
Cost of 5 days food, hay at $\frac{1}{2}$ lb.,.....	\$1.00
Milk in 5 days.....	61.875 lbs.
Cost of milk, (hay at $\frac{1}{2}$ cent per lb.) 1.6 cents to the lb., or	
3.2 cents the wine quart.	

SECOND TRIAL.

Fed 5 days on 2 $\frac{1}{2}$ per cent. of live weight of cut hay.	
Cut hay daily.....	40 lbs.
Cut hay in 5 days.....	200 lbs.
Cost of 5 days food, hay at $\frac{1}{2}$ cent. per lb. \$1.00	
Milk in 5 days.....	60 lbs.
Cost of milk, (hay at $\frac{1}{2}$ cent per lb.) 1.6 cents the lb., or	
3.3 cents the wine quart.	

These trials show that 2 lbs. of Indian meal are very nearly equal to $\frac{1}{2}$ per cent. of live weight of hay, or that one pound of meal is equal, nearly, to 4 lbs. of good English hay.

THIRD TRIAL.

Fed 5 days on cut hay.....	16 lbs.
32 lbs. oat straw, hay value.....	16 "
2 lbs. Indian meal, hay value.....	8 "
Hay value of food daily.....	40 "
Hay value of 5 days food.....	200 "
Cost of 5 days food, hay at $\frac{1}{2}$ cent per lb. \$1.00	
Deduct 5 lbs hay and straw not consumed	2 $\frac{1}{2}$
	<hr/>
	\$0.97 $\frac{1}{2}$

Milk in 5 days, 50 lbs.
Cost of milk, hay at $\frac{1}{2}$ cent per pound, 1.99 cents the lb., or 3.9 cents the wine quart. The hay and straw cut, given

wet: the meal sifted over the hay and straw. This trial seems to show that 2 lbs. of oat straw is not equal for milk to 1 lb. of hay.

FOURTH TRIAL.

Fed 5 days on cut hay daily.....	16 lbs.
Oat straw cut, 32 lbs. hay value.....	16 "
2 lbs. Indian meal, hay value.....	8 "
Hay value of 5 days food.....	200 "
Deduct 6 lbs. not consumed.....	6 "
	<hr/>
	194

Cost of 5 days food, hay at $\frac{1}{2}$ cent per lb. \$0.97
Milk in 5 days, 48 6-16 lbs.
Cost of milk, hay at $\frac{1}{2}$ cent per lb., 1.9 cents per lb., or 3.9 cents the wine quart. The hay, straw and meal were given dry. This trial shows that hay, straw and meal is not so good for milk as when wet.

February 3, 1852, commenced feeding two cows one 33 months old, 14 days after calving, live weight 1000 lbs. The other 31 months old, 7 months after calving, not now in calf, live weight 690 lbs. These cows were fed 5 days on 42 lbs., or 2 $\frac{1}{2}$ per cent. of their live weight of uncut hay and 50 lbs. of flat turnips daily.

Uncut hay daily.....	42 lbs.
Turnips, 50 lbs., hay value.....	10 "
	<hr/>
	52
Hay value of 5 days food.....	260 lbs.
Cost of 5 days food, hay at $\frac{1}{2}$ cent per lb. \$1.30	
Milk in 5 days, 153.6 lbs.	
Cost of milk, hay at $\frac{1}{2}$ cent. per lb., .846 of a cent the lb.,	
or 1.6 cents the wine quart.	

SECOND TRIAL.

Fed five days on cut hay.	
Cut hay daily.....	42 lbs.
Turnips, 52 lbs., hay value.....	10 "
	<hr/>
	52
Hay value of 5 days food.....	260 lbs.
Deduct 5 lbs. not consumed.....	5 "
	<hr/>
	255
Cost of 5 days food, hay at $\frac{1}{2}$ cent per lb. \$1.27.5	
Milk in 5 days, 152.2 lbs.	
Cost of milk, .837 of cent per lb., or 1.6 cents the wine	
quart.	

The cows did not eat the hay quite so well as the long hay on the first trial, so that the whole experiment shows a small difference in favor of cut hay.

THIRD TRIAL.

Fed same as second trial, except gave 3 lbs. of Indian meal instead of 50 lbs. of turnips.	
Cut hay daily.....	42 lbs.
3 lbs. Indian meal daily, hay value.....	12 "
	<hr/>
	54
Hay value 5 days food.....	270 lbs.
Deduct 10 lbs. hay not consumed.....	10
	<hr/>
	260

Cost of 5 days food, hay at $\frac{1}{2}$ cent per lb. \$1.30
Milk in 5 days, 153 lbs.
Cost of milk, hay at $\frac{1}{2}$ cent per lb., 0.849 of a cent per lb., or 1.6 cent the wine quart. This trial seems to prove that 3 lbs. of Indian meal is equal to 12 lbs. of English hay or 50 lbs. of flat turnips, for milk.

FOURTH TRIAL.

Fed cut hay daily.....	42 lbs.
33 lbs. carrots daily, hay value.....	11 "
	<hr/>
	53
Hay value 5 days food.....	265
Deduct 5 lbs. of hay not consumed.....	5
	<hr/>
	260
Cost of 5 days food, hay $\frac{1}{2}$ cent per lb., \$1.30	
Milk in 5 days, 150.5 lb.	
Cost of milk, hay at $\frac{1}{2}$ cent per lb., 0.863 of a cent per lb.,	
or 1.7 cents the wine quart. This trial shows that 33 lbs. of carrots are not quite equal for milk to 50 lbs. flat turnips or 3 lbs. of Indian meal. The cows in all the trials had free access to water.	

December 10, 1851, commenced feeding 1 cow, 72 months old, one ditto, 96 months old, one ditto, 49 months 5 old,

heifers 32 months old, 7 heifers 22 months old, 4 calves 9 months old, and 4 calves 8 months old. These cattle weighed live weight, 14,567 lbs., and were fed 5 days on 277 lbs. of cut hay daily, and drank daily 887 lbs. of water, dropped daily 668 lbs. of solid manure, or 2.41 lbs. of manure for one lb. of hay consumed.

Second trial commenced December 16, 1851. Fed same cattle five days on 352 lbs. hay daily, solid manure dropped daily 860 lbs., or 2.44 lbs. for one lb. of hay consumed; drank daily 868 lbs. of water.

February 28, commenced feeding one cow 72 months old, one ditto, 96 months old, and one 48 months old, 3 heifers 32 months old, and 6 heifers 22 months old. The live weight of these cattle was 9,472 lbs.; they were fed 5 days, 240 lbs. cut hay daily; solid manure dropped daily 594 lbs., or 2.47 lbs. of manure for one lb. of hay consumed. Drank daily 542 lbs. of water.

Hay consumed in the three trials,.....869 lbs.

Manure dropped,.....2121 "

The proportion of manure to hay is as 2.44 lbs. of manure to one lb. of hay; the manure weighed 50 lbs. the cubic foot.

Manure after remaining under my barn one year weighed 44 lbs. the cubic foot, a loss of 6 lbs. in one year, or 12 per cent. of its weight when recently dropped.

Songs of the Poultry Yard.

Now that poultry-keeping has become as fashionable as crochet, and every well-regulated young lady keeps her Cochins in preference to a canary, we may naturally expect the mania will soon affect the inspiration of our lyric writers. We are convinced, indeed, that songs for the poultry yard will be counted very shortly with the wants of the age, and will soon supplant those senseless "*Will-you-love-me-then-as-now's*," with which the sentimental school has far too long afflicted us. We are, therefore, tempted to anticipate the national demand, and to supply at once a specimen, which any poultry-minded maiden has our full permission to inscribe in her album—supposing that exploded nuisance can be anywhere found extant:

Air—"Lesbia hath a Beaming Eye."

Lesbia hath some Cochins Chi-

na fowls of most superior breeding;

Every one too fat to fly,

So constantly she keeps them feeding.

Daily wakened by their crows,

At some precocious hour she rises,

And while their breakfast forth she throws,

Her pets she thus apostrophizes:

"O my Cochins China dear—

(I mean expensive)—Cochins China;

Most hens lay

One egg a day,

But you lay *two*, my Cochins China!"

[London Punch.

Pulse of Various Animals.

The pulse of several of our domestic animals, as given by Vatel, in his "Veterinary Pathology," is nearly as follows:

Horse, from 32 to 38 pulsations per minute; Ox or Cow, 35 to 42; Ass, 48 to 54; Sheep, 70 to 79; Goat, 72 to 76; Dog, 90 to 100; Cat, 110 to 120; Rabbit, 120; Guinea Pig, 140; Duck, 136. Hen, 140.

The Cranberry.

It has frequently been asked—"What is the most successful method of cultivating the cranberry?" This may perhaps be a somewhat difficult question to answer, as it has been grown "successfully" in a great variety of ways, and on almost every description of soils intervening between dry and dusty sands, and those composed of viscid and tenacious clay. It is indigenous in low boggy lands and consequently to such its cultivation has, till recently, been almost exclusively confined. When grown on such lands, the plants are generally "set" in the fall. The bog land requires no preparation, except a covering of sand about two inches deep. The vines are removed from their original position, with a small quantity of soil attached to their roots, and transplanted two or three feet apart. They develop foliage rapidly, and require hoeing only during the first two years after being set out. When circumstances admit of it, it is a

good plan to keep the water on them from December till about the first or second week in April, and after that, to keep it, if possible, level with the ground's surface, so as to retain a supply of moisture about the roots during the first part of the season. Early frost, or frost in the autumn, before the fruit begins to ripen, proves fatal to the crop. Cranberries are obtained from vines thus managed, the second or third year, and the plants when once established never run out.

A writer in the Massachusetts Plowman, gives an experiment in transplanting cranberries from low, swampy land into good corn land, "in hills far enough apart to admit the cultivator and clean hoeing." The work of transplanting was performed early in the spring; at midsummer they blossomed, and in fall produced fine fruit. The berries were large, very handsome, and many of the hills produced a pint of fruit.

In 1846 the Cultivator contained an interesting article on cranberry culture, in which it was asserted that Mr. Sullivan Bates, of Bellingham, Mass., had raised this fruit in great abundance, "by transplanting the vines from low ground to high." The system this gentleman pursues is, it seems, to plant them in lines, or drills, twenty inches apart, (whether vines or seeds it is not stated,) and seven inches in the drill. His plan is always successful. He had from a single acre, in one season, cranberries to the amount of *four hundred bushels*! It is essential, however, to the success of this plant, that the soil be such as will not parch or bake, and should be replete with energetic humus in a state of slow but uniform decomposition and decay.

It is also asserted in the Farmer's Dictionary, that the cranberry is a plant easily and successfully cultivated on uplands, and that its powers of proliferation, and the general health and physiological character of the production, appear to be ameliorated and greatly improved by changing its medium, and also that the product is more desirable, being of a fairer development and superior flavor. "The runners," says the authority, "can be 'layered,' or seed sown in the spring. They grow rapidly, covering nearly everything, and are but little subject to the attacks of insects. The plants are set about eight inches apart, and are kept clean at first. The yield increases for several years, and becomes as great as four hundred bushels per acre in five years, although two hundred is a good average. The fruit is gathered with rakes, which serve to prune the plants at the same time. When the berries are intended for keeping, they should be rolled over a gently inclined plane of wood, in order to remove such as are soft or rotten. They keep well for a year in tight casks, filled with water, and headed close."

It is stated in the American Agriculturist, that Mr. Wm. Hall, of Norway, Maine, "sowed the berries on the snow, in spring, on a boggy piece of land, about three rods square. The seed took well; rooted out the weeds, and produced accordingly." It is greatly to be hoped that the cultivation of this plant, now ascertained by so little trouble and expense, will become more common.—A NEW ENGLANDER.—*German-town Telegraph*.

Should Cattle be Fed Three Times a Day?

A correspondent of the Ohio Farmer thinks that sheep and cattle should not be fed three times a day. He says a cow, when turned into good grass, will eat with avidity for an hour or so, the ruminating process is then commenced, and continued for three or four hours more. The food is in this way thoroughly masticated and mixed with saliva before it enters the second stomach to be acted on by the gastric juice and digested. The digestive process will occupy four or five hours. We have, therefore, "allowing two and a half hours for eating, one hour for rest, four hours for ruminating, and four or five for digestion, eleven or twelve hours between the times when an animal would naturally need feed." He thinks from this that feeding animals three times a day is not only unnecessary, but positively injurious.

If the animal is fed at 6 A. M., and again at noon, the ruminating process is not completed, and if fed at 5 P. M., it will not give the animal sufficient time to masticate the food, even by keeping its grinders in constant motion, so that at the best there must be forced on the digestive organs a portion of the food improperly masticated, causing an extra amount of labor for these organs, and at the risk of engendering disease.

His practice has conformed to this theory, and he thinks his stock at least as good as his neighbors', who feed three times a day. He asks those who think differently to give a reason for their belief, and also to try a lot fed twice a day against a lot fed three times.

We have always considered it advisable to feed animals three times a day, and have observed animals so fed, on an occasion when the noon's feed has been omitted, manifest all the symptoms of real hunger, eating substances which, under ordinary circumstances, they would not touch. But perhaps we are wrong: at all events, *let us have the experiment.*
—*Rural New Yorker.*

The Object of Plowing.

The object of plowing is not fully understood and considered by the majority of those who perform the work; if it were, it would be done more faithfully and thoroughly. It is not alone to kill the weeds and grass, nor even to furnish a seed bed of fresh turned soil for planting or sowing—nor anything which looks merely to the inversion of the sod—which constitutes good plowing. Large plows, turning a wide and shallow furrow, will show a large day's work—but the work is very imperfectly accomplished, when the true object of plowing is considered. The chief value of plowing is the preparation it gives the soil for producing vegetation—for giving to the plants sown or planted, the elements of growth and fruitfulness. It should thoroughly pulverize and loosen the texture of the soil, and thus admit a free circulation of air and moisture, which, by chemical action, disintegrates or breaks down the stony or mineral portions of the same, so that they may be more readily dissolved and taken up by the roots.

In a soil thus plowed—thus prepared for yielding its support to vegetable life—plants can appropriate from far and near the nutriment needed for their growth. It is dissolved and ready for their use—not hidden in unbroken clods or slumbering in an undisturbed subsoil—but awaits their action in a friable and penetrable state, where every hungry rootlet, sent out to gather nourishment for its parent plant, may find and appropriate it. It is truly wonderful how full of minute roots the soil of a cornfield becomes, and if that soil is fine and deep the deeper and closer together will the fibres permeate and intersect it. This is true of all other crops, and while the leaves and fruit depend so intimately on the vigor and extent of the roots, these facts should always be taken into consideration among the objects of plowing.

Fineness and depth of soil are requisite in order to receive the full benefit of the manures applied. It is not fertilizing food in its crude state which assists vegetation—it must first become intimately mixed with, or, in fact, a part of the soil. Barnyard manure, especially, seems of little worth while forming visible layers between the clods of a half plowed soil—it is often dry and coarse—and rather shunned than sought by the roots sent out to forage for suitable food. If a well prepared soil has any strength and virtue it will yield it readily: and poor land in good tilth is often more productive than better soils less perfectly prepared. The influences of air and moisture have freedom to work, and they are no laggards in gathering means to supply the wants of vegetation.

With these hints on the object of plowing, we might connect others on the process—the best means of accomplishing that object—but prefer to leave it for other pens. Will our practical farmers, who have thought and experimented upon the subject, tell us what plow, and what depth and width of furrow, taking also soil, season, team, and time into consideration, most thoroughly loosens, pulverizes, and inverts the soil? This information would be of much value to every farmer, and is especially needed in the present state of agricultural progress—for taking the country at large into account, plowing is more imperfectly performed than any other part of farm husbandry.—B.—*Rural New Yorker.*

Culture of Pie Plant.

All who have had any experience in this matter are fully convinced of the luxury and healthfulness of fresh and succulent substances for pies at all seasons of the year. Yet the idea has never suggested itself to the many, or if it has it is not practised upon, that a cycle of such substances may be had so as to furnish fresh material through the year. The Pie Plant furnishes a beautiful link in this connecting chain,

coming, as it does, when apples begin to lose their freshness or, as they are in many families, not to be found at all, and before gooseberries, which have not yet found place in one garden out of twenty to any considerable extent. Yet how few cultivate the pie plant! Why, we know not, for nearly all are fond of it when properly cooked, and it can be raised as easily as the Burdock when once introduced into the soil. Neither of them will grow successfully in poor soils. The Burdock chooses a location for itself, and the pie plant is nearly always thrust into some poor corner of the neglected garden, and then blamed excessively if it will not produce large, fine foot stalks where even common weeds would refuse to grow, and where no grass would vegetate, unless it be the ever intrusive quack. We once planted some miserable, puny roots of the pie plant in a rich, deep soil. The consequence was, the next year the size of the foot stalk increased one-half. The following autumn, before the setting in of frost, we covered the bed some three or four inches deep with fresh horse manure. This kept the roots in fine preservation through the winter, and early in spring, when the ground was fairly settled, the manure was mixed with the earth by a deep and thorough forking. No wonder that the vigor of our plants was increased in a wonderful proportion! As soon as any buds appeared they were taken off—the leaves were cut as often as they became large enough for use. The next spring we gave the usual protection of manure, and the following spring we forked it in. This course we have now followed for four years with some plants we took from neglected grass land. Now mark the result: from the miserable, puny leaves and stalks of the first year's growth, when the stalks were not more than six inches long and proportionately slender, we have now large, broad leaves, and stalks so strong that all who see them are inquiring where we got our new variety of plant, so luxuriant, strong and beautiful. The answer is conclusive: cultivation has done it; and the simple process we have followed, if pursued by others, will, on a small piece of land, and with very little labor, furnish them with an abundance of pie material at the season when, with many, there is the greatest dearth in that article. If gypsum is sown on the young leaves when the dew is on, it will push their growth finely by aiding the manure at the roots in giving them nourishment. We have no doubt but this article can be raised in the way we have adopted, so as to furnish it to cultivators at the rate of enough for a pie for half a penny. What a comfort!—*Horticulturist.*

Ripening of Winter Pears.

A gentleman writes us:—"This fall I put in boxes *Louise Bonne de Jersey* Pears; some were in average temperature of 55°, others from 50° to 55°. Those in the coldest room, left there to ripen, were infinitely superior to the others. I assure you I had no idea of the value of that pear before." This agrees with our own experience. A moderate temperature is better for the ripening of soft, melting pears.

Another correspondent writes: [Dec. 10.]—"I have just sent my last specimen of *Beurre Diel* and *Beurre d'Anjou*. It is not generally known, that these two noble pears, if gathered late and kept cool, will keep nearly as long as either the *Lawrence*, *Vicar of Wakefield*, or *Winter Nelis*; they ripen perfectly well in the cellar, too. My *Winter Nelis* and *Glout Moreeau* are both ripe, and will not keep much longer. Nothing can be more delicious than the *Winter Nelis*; the *Glout Moreeau* is also fine, but it would be better if ripened in a higher temperature. The *Vicar* will not ripen so as to be presentable at dessert without the aid of a higher temperature than the cellar. My specimens are now as beautiful as they can be in color, a pale, clear straw color. The other day I was tempted to put some on the table, but my guests, who seized them eagerly, were sorely disappointed. It is an invaluable fruit; but it must have a temperature of 50° or 60° before it is fit to be eaten. My *Easter Beurre*, picked in the middle of September, are now ripe, and how delicious! I cannot praise this pear too highly. It ripens to complete perfection in the cellar without any other care than we give apples, and we can have it all winter by picking at different times. Those picked in the middle of October are now green and hard, and will keep sound and fresh till April. *Epine Dumas* (*Duc de Bordeaux*) is a beautiful and fine fruit, but requires ripening in heat to be perfected. It is as beautiful and better than *Vicar*, and must be more extensively grown than I think it is. *Josephine de Maline* begins to ripen, and is good; an excellent keeper. It has

much the flavor of *Passe Colmar*, and the tree, too, resembles it in several features. Are they not evidently akin? *Beurre d'Artemberg* are in their prime just now, and may keep a month longer. We unanimously set them down as "best" in the same category with *Winter Nelis* and *Easter Beurre*, requiring no other care for ripening—a pear for everybody."—*Horticulturist*.

Putting up the Clothes Line.

[We commend the following and unique mode of putting up a clothes line to our readers generally, but particularly to those whose grounds are small. It was furnished by a correspondent of the *Ohio Cultivator*.]

DEAR MRS. BATEHAM:—We always had so much trouble at our house on washing days to get the clothes line put up so as to hold the clothes until they were dry. We had a big nail driven in the post at the corner of the wood house, to which we tied one end of the line, then we took it to an apple tree, about four rods off, and gave it a turn around a limb, from there it is carried to the high post of the garden gate, and then brought back to the well curb. If it was a still, bright day, and the folks were not at work in the yard, we along well enough, but sometimes the winds would blow and flap the clothes about, and being so far from the wood house to the apple tree, they would sweep the ground, unless we propped them up with a forked stick; in which case the whole stretch would sail over, just as a clipper's sail jibes, when the bow is brought into the wind's eye, as the sailors say: and after a few such somersets, the old line would give way, and let the whole washing down in the mud! Mrs. B., did you ever see a woman with a whole washing upset in that way? Its of no use talking to her then! Another trouble was, that the line from the gate to the well curb was right over the path from the barn to the house, so that the men in passing with the horses generally left their mark upon the clean clothes. We worried over these annoyances along while, "until forbearance ceased to be a virtue," for we were growing wickeder every week, and Pa said he would see to it as soon as he had time, but it seemed to us the time would never come. So when he went to Columbus to stay a day or two, we bribed Billy—a good natured fellow, who is half a carpenter—to make a nice, revolving frame—two cross sticks, with a hole for a peg at the crossing to fasten it flat on the top of a post in the ground. The post is about as high as our heads, and all along on the tops of the cross sticks are pegs like those on a bedstead, about a foot apart, to hold the line, which is run around from one arm to another, almost like a spider web.

The arms of the cross timbers on our frame are about two yards and a half long from the post, and this will hold a large washing. When we carry out a basket of wet clothes we can set it down and hang one angle full, and turn it around and fill another, without taking up the basket; and by hanging the sheets, &c., on the outside ropes, which are longest, we can get places for all, where they will not sweep the ground, or be in any body's way; and by turning the whole, once in a while, the sun will dry them all alike. Pa was a little surprised when he first discovered what we had done, but when he saw how much better natured we were on washing days, he said there was more morality in a good clothes line than he had imagined.

Value of Turnips as food for Stock.

We have always thought that turnips, both the flat and ruta bagna, were underrated among us as food for stock, while in England they are looked upon almost as the cattle grower's sheet anchor. In this country they are considered by the majority of farmers as rather inferior feed. It is true that the climate of England is better adapted to raising of turnips than ours, and it is also true that they cannot raise that king of all provenders—Indian corn, as we can, but nevertheless, turnips are valuable as food for stock, and every farmer who raises a good supply, will see a decided profit in feeding them out to stock.

Recent experiments demonstrate the value of this root on the farm, more clearly than has heretofore been done. They contain quite an amount of what is called nitrogenous matter. Now the flesh or muscles of animals is made up in part of nitrogenous matter, and hence, turnips supply material useful in the formation of muscle. Our friend Martin Mower, of North Bangor, once said to us, that he thought he could add more muscle to his farm stock by the use of turnips as

feed, cheaper than by anything else. He was experienced much in this kind of feed, and his opinion is valuable on this point.

Mr. Lawes of England has been experimenting upon turnips as a feed, also on the different qualities of turnips grown by different manures. An opinion prevailed that when turnips were manured with highly nitrogenous manures, such as barn yard manure, and also with guano they contained more nitrogen, and that the more nitrogen in the turnip, the better feed it became. The experiments prove the fact, that the more nitrogen in the manure applied, the more nitrogen in the turnip, but that this difference was not enough to make any essential difference in their value as food. But we look upon the experiments of feeding as valuable, as demonstrating the feeding powers of this root.

Without giving the details we will state the results. Three lots of cattle being weighed, were put into separate situations, and fed twelve weeks. Their daily allowance each was 168 pounds of turnips, 10 pounds of small diseased potatoes, and 5 pounds of cut hay mixed with cut straw.

At the end of the twelve weeks they were weighed again, and found to have gained on the average $13\frac{1}{2}$ lbs per week. This proves that there is nutritive power in turnips which some deny. The exact profit of this nutrition we cannot tell, without knowing more of the turnips, and the market worth of the animal thus fed.—*Maine Farmer*.

An Ohio Corn Crop.

The *Ohio Cultivator* contains a statement of a corn crop raised by A. H. Thompson, of Union County, Ohio, which is the biggest story of the biggest crop we have found going the rounds of the papers for some time. On a field of 20 acres, a clover sod, an average of 100 bushels per acre was obtained. But there was one acre of these 20, in a cove "in the second bottom, which I plowed about ten inches deep in the winter;—about the first of May, harrowed my sod entirely loose; furrowed my ground two feet each way and had three stalks to each hill; plowed three times each way, once in each row; the corn was gathered the first of October, and measured in a large basket, and an average basket-full shelled in my presence—the amount was 185 $\frac{3}{4}$ bushels. The remainder of the lot was only measured by the wagon-load."

Action of Frost on Vegetables.

The action of frost on potatoes and other vegetables is not clearly understood. It rearranges the particles of matter and induces speedy fermentation. The nitrogenous matter acts on the starch and converts it into sugar, similarly to the action of malting. Hence the sweet taste of frozen potatoes.

Sugar Beet.

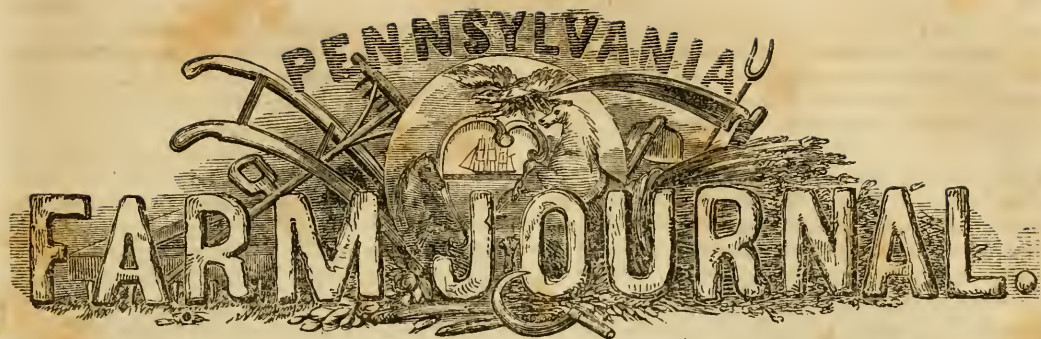
We cannot too often or too confidently recommend the cultivation of this excellent field crop. It is a great yielder, hardy, easily raised, and is superior, we think, to any vegetable grown for milk cows and fattening cattle, especially when fed raw. We have grown large quantities for our own use the past seventeen years, and therefore can speak of it practically and experimentally. One of our neighbors—a lady farmer—informs us that she made thirty pounds of butter per week from six cows in December, fed on hay and sugar beets. She adds, that the butter was fully equal to the best made in September and October on rich pasture.

The sugar beet does best in moderately rich and loamy soil, but will grow where any other root does. The seed should be soaked two to four days in tepid water previous to planting, so as to insure its germination. If planted without first soaking, its shell is so hard it is a long time germinating. Hence the ill success of many who do not take this into consideration.

For field cultivation the rows should be three feet apart, so as to admit working easily with the cultivator among the rows. The plants, when finally thinned out, should not stand nearer to each other than six inches in the row. It can be pulled and secured in the fall the same as turnips.

The best variety is the White Silesian, though the French Yelcw has been so much improved lately, we are informed it has become nearly as good as the latter. We have never found it to keep so well.

The beet requires about four pounds of seed per acre, and can be planted very rapidly in drills with a seed-sower, costing about eight dollars.—*Am. Agriculturist*.



PENNSYLVANIA FARM JOURNAL.

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PENNSYLVANIA FARMERS' HIGH SCHOOL.

[Immediately on the passage of the act incorporating the Farmers' High School, we applied for a copy for publication, but not receiving it we were compelled to copy it from one of the Harrisburg newspapers. Upon comparing it with a "true copy" we find it contains several errors, and therefore re-publish it for the benefit of our readers.—ED.]

AN ACT

To incorporate the Farmers' High School of Pennsylvania.

SEC. 1. *Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania, in General Assembly met, and it is hereby enacted by the authority of the same,* That there be, and is hereby erected and is established at the place which shall be designated by the authority, and as hereinafter provided, an institution for the education of youth in the various branches of science, learning and practical agriculture, as they are connected with each other, by the name, style and title of the Farmers' High School of Pennsylvania.

SEC. 2. That the said institution shall be under the management and government of a board of trustees, thirteen of whom shall be a quorum, competent to perform the duties hereinafter authorized and required.

SEC. 3. That the President and Vice-Presidents of the Pennsylvania State Agricultural Society, and the Presidents of the several county agricultural societies, which shall at any time have been organized more than one year, shall be *ex-officio* members of and constitute the board of trustees; which said trustees and their successors in office are hereby erected and declared to be a body politic, and corporate in law, with perpetual succession, by the name, style and title of the Farmers' High School of Pennsylvania, by which name and title the said trustees and their successors shall be able and capable in law to take by gift, grant, sale, or conveyance, by bequest, devise or otherwise, any estate in any lands, tenements and hereditaments, goods, chattels or effects; and at pleasure to alien or otherwise, dispose of the same to, and for the purposes of the said institution: *Provided however,* That the annual income of the said estates so held shall at no time exceed twenty-five thousand dollars; and the said corporation shall, by the same name, have power to sue and be sued, and generally to do and transact all and every business touching or concerning the premises, or which shall be necessarily incidental thereto; and to hold, enjoy and exercise all such powers, authorities and jurisdiction, as are customary in the colleges within this Commonwealth.

SEC. 4. That the said trustees shall cause to be made a seal with such devices as they may think proper, and by and with which all the deeds, diplomas, certificates and acts of the institution shall be authenticated; and they may at their pleasure alter the same.

SEC. 5. That on the second Thursday of June, after the passage of this act, the board of trustees, who are hereby appointed, shall meet at Harrisburg, and proceed to the organization of the institution and selection of the most eligible site within the Commonwealth of Pennsylvania, for its location, where they shall purchase or obtain by gift, grant or otherwise, a tract of land containing at least two hundred acres, upon which they shall procure such improvements and alterations to be made, as will make it an institution properly adapted to the instruction of youth in the art of farming, according to the meaning and design of this act; they shall select and choose a principal for the said institution, who, with such scientific attainments and capacity to teach as the Board shall deem necessary, shall be a good practical farmer; he with such other persons, as shall from time to time be employed as teachers, shall compose the faculty, under whose control the immediate management of the institution and the instruction of all the youth committed to its care, shall be subject, however, to the revision and all orders of the board of trustees; there shall be a quarterly meeting of the board of trustees at the institution, and as much oftener as shall be necessary, and they shall determine; the board shall have power to pass all such by-laws, ordinances and rules as the good government of the institution shall require, and therein to prescribe what shall be taught to, and what labor performed by, the pupils, and generally to do and perform all such administrative acts as are usually performed by and within the appropriate duty of a board of trustees; and shall, by a secretary of their appointment, keep a minute of the proceedings and action of the board.

SEC. 6. That it shall be the duty of the board of trustees, as soon and as often as the exigencies of the institution shall require, in addition to the principal, to employ such other professors, teachers or tutors as shall be qualified to impart to pupils under their charge, a knowledge of the English language, grammar, geography, history, mathematics, chemistry and such other branches of the natural and exact sciences, as will conduce to the proper education of the farmer; the pupils shall themselves at such proper times and season, as shall be prescribed by the board of trustees, perform all the labor necessary in the cultivation of the farm, and shall thus be instructed

and taught all things necessary to be known by a farmer, it being the design and intention of this law to establish an institution in which youth may be so educated as to fit them for the occupation of a farmer.

SEC. 7. That the board of trustees shall annually elect a treasurer, who shall receive and disburse the funds of the institution, and perform such other duties as shall be required of him, and from whom they shall take such security for the faithful performance of his duty as necessity shall require; and it shall be the duty of the said board of trustees annually, on or before the first of December, to make out a full and detailed account of the operations of the institution for the preceding year, and an account of all its receipts and disbursements, and report the same to the Pennsylvania State Agricultural Society, who shall embody said report in the annual report, which, by existing laws, the said society is bound to make and transmit to the Legislature, on or before the first Monday of January of each and every year.

SEC. 8. That it shall be lawful for the Pennsylvania State Agricultural Society to appropriate out of their funds to the objects of this act, the sum of ten thousand dollars, whenever the same shall be required, and to make such further appropriations annually, out of their funds, as will aid in the prosecution of this object; and it shall be the duty and privilege of the said society, at such times as they shall deem expedient, by their committees, officers or otherwise, to visit the said institution, and examine into the details of its management.

Approved the 13th day of April, 1854.

WILLIAM BIGLER.

The Pennsylvania Legislature and the Farmers' High School.

J. L. DARLINGTON—Dear Sir:—I do not think that any thing practically useful could be established upon the basis of the act "to incorporate the Farmers' High School of Pennsylvania," as it has been passed by our present Legislature. It is very manifest that in this day of progress, speculation and enterprise, agricultural interests are too *slow* a subject to command Legislative attention. Who could be found to spend time upon the unprofitable subject of a school for farmers' sons, whilst there is a forfeited railroad to be bargained for, a bank to be incorporated, or a divorce to be obtained. Such subjects are made very interesting. I most sincerely wish that the farmers of Pennsylvania could be excited to feel that their interests shall be cared for, that their business is of more importance than all else besides, and, especially, that their votes are more than a majority of all that are cast. In Pennsylvania to steal a dollar from a mechanic or a merchant is indictable, and will be punished as a crime, whilst a farmer's fences may be broken down, carried away and burned, his orchard may be robbed, and his field plundered of its corn, and there is no law to prevent it. Our Legislature has been numerously petitioned by farmers from all quarters of the State, at this past session, to remedy this defect in our laws, and lest it might be too much trouble and require too much skill to mature a bill upon the subject, one was prepared for them and put into their hands; but it required too much industry and perseverance to get it through. And now, in the vicinity of towns especially,

the farmer's fences may be broken down, carried away and burned, his orchard may be robbed, his corn field may be pillaged, and his remedy is an action of trespass against a worthless thief.

Farmers ask that a school may be incorporated and based upon principles of teaching their art, and those natural sciences which are necessarily connected with it; they take the trouble to exhibit the plan by which such a school may be made so much self sustaining as to cheapen education within the reach of their means, and ask the Legislature to aid them in their enterprise; and of the millions that are appropriated to other objects, it is not even proposed to appropriate one farthing to so important an object: the answer is an act of incorporation, which is stupid and senseless in every feature, having a board of trustees of twenty-five or seventy-five, as the case may be, so situate that they never can be got together, and if convened once the same persons would probably never be got together again. But what is to be complained of is, that the farmers, as a class, are of so little consideration in Pennsylvania they cannot command the respectful attention of their own Legislature.

Respectfully, FREDERICK WATTS.

Carlisle, May, 1854.

The above remarks of Judge Watts, as respects the general legislation of our Commonwealth, are unfortunately too true, and we fear there is little hope of amendment until the producing interests, constituting nine-tenths of the population, take the matter in hand and elect legislators who sympathise with them in their efforts to sustain the *general* interests of the State, instead of those whose only business at Harrisburg seems to be to serve the interest of private corporations, local or foreign.

In regard to the Act for the "Farmer's High School," the Judge's "organ of hope" is evidently not so large as ours. The *defects* of this act are too palpable to admit of discussion, and the unmitigated meanness of the Legislature in withholding an appropriation is—natural enough, perhaps, under the circumstances, yet the question presents itself, whether an imperfect act of incorporation at this time is not better than none at all? The preliminary steps towards an organization of the school can be taken, which will be a work of much time and consideration, and as the defects of the present act become more apparent, we can live on hope that a future Legislature will be blessed with sense enough to appreciate the subject, and pass such amendments as will be necessary to the successful completion of the enterprise.

The Apple Man in 1853.

Mr. N. P. Morrison, of Somerville, last year, received \$10 for one barrel and twenty-eight apples of the Hubbardston variety. These apples were sold by the retailer at fifty to seventy-five cents a dozen. Mr. M. cultivates, says the New England Farmer, eight acres of land; his fruit, this barren year, 1853, brought him \$850. For twenty-six bushels of apples he received \$60. For one hundred and thirty-six barrels he received \$408. For strawberries and raspberries \$100. The balance, to make up the whole sum, \$850, was for cider apples, sold at from eight to twelve cents a bushel, and

for early wind-falls sold in July and August. Perhaps some of our young men will come to the conclusion that the market for *good* fruit is not yet over-stocked. There is no rural pursuit which pays better than fruit culture when properly attended to.

A NEW TREE.

The Boston Journal of Agriculture publishes a letter from a respectable farmer in Olympia, Oregon, describing a remarkable tree hitherto unknown. We annex the following extract:—"A strange and beautiful tree has been discovered in Washington Territory, which is not known to exist in any other part of the habitable globe. The tree is destined, I think, to make some noise in the world. It is remarkable, because its like is not found elsewhere, and on account of its great beauty and fragrance. The tree varies in height from *one to seven* feet. The leaf resembles that of the pear, while the trunk and branches look like those of an orange tree. The upper side of the leaf is coated with gum, having the appearance of oil, and of the consistence of honey. Handling them causes the gum to adhere slightly to the fingers. The gum, as well as the leaf and bark, is highly odorous. The fragrance, which is quite strong, resembles that of Bergamot, or ripe fruit, and a few leaves are sufficient to perfume a room. A leaf, fully wrapped up in paper, so as to be entirely concealed, was handed to several persons, with a request that they would tell by the smell what it was. All expressed themselves highly delighted with its fragrance, but gave different answers as to its character. Some said it smelled like ripe pears; some that it was Bergamot; whilst others thought it smelled like ripe apples. The flower resembles that of the white Jessamine.

"This will certainly make a very beautiful and desirable ornamental tree, to grow in our gardens, around our dwellings, near the parlor windows, or to form a choice bower. Its intrinsic value for these purposes is greatly enhanced by the consideration that it is *Evergreen*. This specimen is brought from my farm, and is taken from a grove of about a quarter of an acre. The plant is very rare even here, the oldest settlers of the country say they never saw it growing elsewhere."

Manure for Pears and Some New Varieties.

Mr. Rivers, the well known English nurseryman, has lately issued a new catalogue, in which he remarks that the following compound has been of great service in growing pears, whether they were on the pear or quince stock. A blackish rich earth is frequently found in low marshy spots, and along the banks of creeks; this is generally considered rich, and valuable for horticultural purposes. In its fresh state such is not the case, but Mr. Rivers has found that if it is dug out and laid in a ridge, mixing it with one-eighth part of unslacked lime, and turning it two or three times for about eight weeks before it is applied, it makes a very valuable manure for pear trees, especially when they are newly transplanted; one wheelbarrow full to a tree being considered sufficient. Mr. Rivers likewise remarks that the only method of growing pears successfully in a pyramidal form, on pear stocks, is by biennial transplantation. This is a process which will not be adopted here for some time, if ever, as it is hardly suited to the climate, or to our different modes of cultivation.

Concerning this biennial removal of trees, the same writer says, it is "the most simple of all methods of root pruning; it consists in digging a trench round the tree early in November, and lifting it out of the ground carefully, with all the earth possible attached to the roots, shortening with the knife

any that are straggling." The method applies only to the dwarf pyramidal pear trees, which experience is now showing to be the most successful, and most economical method of growing fine fruit, and which is growing more in favor every day with fruit growers.

The following are the remarks of Mr. Rivers on some new pears which have been introduced the last season:

Alexandre Brivort.—First quality, second in size, flavor sugary, perfumed and exquisite. It literally melts in the mouth. January.

Belle de Noel.—First quality, second size, grows slowly. Is an excellent christmas pear, melting and rich.

Beurre Giffart.—First quality, second size. New, hardy, and one of the best early pears; succeeds as a bush on the quince better than as a pyramid. Melting and very juicy, with a noyau flavor. August.

Duchesse de Mars.—First quality, third in size. No pear can be more high flavored and delicious. Succeeds on the quince, but requires to be double worked. December to January.

Marechal de Cour.—First in quality, first in size. A new and fine pear, which Van Mons said he considered was the best he ever raised. Forms a good pyramid on the quince. November.

Onondaga or Swan's Orange.—First in quality, first in size. Mr. Rivers says of this new American pear, that he has found it hardier than even William's Bon Cretien. October.

Susette de Bavay.—First in quality, and third in size. A new excellent late and hardy pear; in a warm season melting; otherwise half melting, but always good. Succeeds well on the quince, and proves naturally a handsome and prolific pyramid. March to May.—*Michigan Farmer*.

Chinese Primulas.

We copy for the benefit of our flower loving readers (and who of them are not) the following article from the English Gardeners' Chronicle:—"As nothing in their way could possibly be finer than my specimens of these at the present time, I have thought that some account of my mode of cultivating them might be useful. The single white and pink varieties ripen seeds in abundance, which afford a ready means of increasing them; and as the fringed sorts are the most beautiful, seeds of them should be preferred. The double varieties are multiplied from cuttings. The best plants are raised from seeds sown every year; they should never be kept beyond the second season. Two sowings, one this month and the other in May, will supply the greenhouse with flowering plants from October till May, and even later. The produce of the first sowing must be prevented from flowering till the end of September, by nipping off the flower buds as they appear. They should then (September) be well established in their pots, and they will require no care beyond ordinary attention, and keeping them from frost, to flower them well. The second sowing, the produce of which is intended to keep up gaiety in spring, should receive the final shift in September, and every blossom, as it appears, should be picked off till the beginning of January. I have said nothing about watering and shifting, but these operations must, of course, be attended to. The plants should be placed a little deeper in the pots at every shift; care must be taken to keep them from damping off in winter. As a preventive of this feeders under the pots are recommended to be used, for the plants are very impatient of water administered to the soil. These feeders should be liberally supplied with water when the plants are in bloom. The Chinese Primrose, like the rest of its race, delights in soil composed of leaf-mould, loam, peat, sand, and a little charcoal. The

above is a mode by which these may be grown successfully in pots; but they may be cultivated with equal facility, and better chances of success, planted out in summer in pits. As in the former mode of culture, sow at the same time, and forward the plants in pots in the greenhouse till the end of May, when they should be turned out of their pots, and planted in prepared compost in a frame under a north wall. Keep them close for a few days after planting, then remove all covering, and leave them freely exposed to the weather, till the time comes for lifting them and potting them, which should be about the middle of September. After they are potted, replace them in the same frame, and shade them for a day or two, to keep them from flagging. In about a fortnight, remove them to the greenhouse, where they will bloom well throughout autumn. Seeds for specimens for spring-work should be sown about the middle of April, and treated as the autumn flowers, taking care to keep them free from frost and from damping off in winter. After they have done blooming, they may be planted out as before, and will flower well next autumn. I have seen plants not excited by fire-heat, or allowed to flower in the previous winter or spring, blossom well in the flower garden during summer; and, not over-luxuriant, but strong old plants, put out in a west aspect in September, on an elevated dry border, under the shade of neighboring Laurel boughs, have been known to survive the winter near London, and to put forth flowers with the Crocus, Polyanthus, and other fair harbingers of summer. They did not suffer so much from frost as from the cold winds of March, "while winter still lingers on the verge of spring."—B.

Sweet Scented Vernal Grass.

We have been furnished by Dr. Emerson with a copy of the following communication, addressed by him to the Editors of the Boston Cultivator, where it was published in the number for the 22d of April. It relates to a subject particularly interesting to those living in the vicinity of Philadelphia, where opportunities exist for testing the accuracy of the author's observations, and the present time is the very best in all the year for doing so. Reference is made to communications upon the subject published elsewhere, but those who possess the Farmer's Encyclopædia—and no intelligent farmer should be without a copy of this excellent work for constant reference upon practical matters connected with agriculture—may find in it a good deal of information relative to the grass in question under the heads of *Anthoxanthum odoratum* and *grasses*:

MESSRS. EDITORS:—One of the late numbers of the Boston Cultivator contains a paragraph which runs as follows: "Several papers are recommending the sweet-scented vernal grass (*Anthoxanthum Odoratum*), as a good pasture grass for cows. We hope no one will be induced to try it, as there are many better kinds. It is a mistake that the excellence of the Philadelphia butter is owing to this grass. The idea never could have proceeded from an observing farmer. Cows are not fond of it, and only eat it when better cannot be had. The June grass, (*poa pratensis*), abounds in many pastures around Philadelphia. It is one of the sweetest and most nutritive grasses, and is well known to be one of the best for feeding dairy and fattening cattle."

These summary conclusions I regard as hastily drawn, and trust they will not generally be received without further examination of the subject, which is one, I conceive, not a little interesting to those especially devoted to agriculture, but also to the community at large, everybody being more or less concerned in the improvement of dairy products.

Laying claim, as I do, to be the first who pointed out the sweet-scented vernal grass as furnishing the proximate cause of that delightful flavor for which the butter in the Philadelphia and many European markets is distinguished. I do not feel content to remain silent under the taunt thrown out against my capacities for observation. My opinions upon the subject were not made up in a flash, but the results of years of close inquiry, examination of pasture-fields and meadows where the cows fed, which produced the highest-flavored butter brought to our market, and finally to chemical analysis, and crucial experiments, as I regard them, made under my direction by many persons in many places. The late Mr. Skinner, whose agricultural writings and publications have done so much good in extending useful information throughout our country, asked me several years ago what it was that made Philadelphia spring butter so much better than any other he found elsewhere in his extensive travels in the United States? Excellent butter he had met with in several places, but none that possessed the exquisite flavor of Philadelphia butter. Having spent some time in the investigation of the subject, I communicated to him my views, and these may be found by any one who will take the trouble to refer to the Farmer's Library, for April, 1845, or the Patent Office Report for 1849-50. After several years additional attention and observation, since my first publication, I find no reason to change any of the opinions formerly expressed. These have been extensively published in newspapers and agricultural periodicals, but, so far as I know, have never been assailed or treated so ungraciously as in the paragraph quoted from the Boston Cultivator. The person who furnished the article assumes to know something about the grasses in the pastures of this vicinity, and speaks of the "June grass," (*poa pratensis*), as abounding in them. This he describes as one of the sweetest and most nutritive of grasses, and would seem to infer that it may possibly furnish the proximate principle which confers on Philad butter its peculiarly fine flavor. Not having myself ever heard of a grass in this locality designated as the "June grass," I have asked others whose residence in the country ought to have made them acquainted with a grass described as abounding. But no one appears to know anything of June grass. *Poa pratensis*, or common green grass, that which constitutes the almost universal herbage of every other portion of our country, exists around Philadelphia, though here its quantity is limited by its rival in the sward. Like all the *poa* family, the common green grass, or *poa pratensis*, is destitute of any fragrant or aromatic principle, though it certainly gives out a grateful odor when newly mown. The sweet-scented vernal grass, however, possesses a distinct aromatic principle, which can be readily distilled from it, and the basis of which is the well known benzoic acid, familiarly known to apothecaries as the Flowers of Benzoïn. Within a circle of many miles diameter around Philadelphia, every field left out of culture a few years, becomes coated with its sweet verdure—the soil being filled with latent seed. The longer the meadows or upland pastures are left unbroken by the plough, the greater the predominance of this fragrant herbage. It is precisely these old pasture grounds, of twenty or thirty years standing, that furnish the highest flavored butter, and that, in the latter part of May, when the grass is in bloom, fills the surrounding country with a rich, vanilla-like fragrance.

In the communications published by me relative to this grass, I have expressly stated that it was not to be regarded as a first-rate hay grass, or cultivated separately as such. But as a pasture grass, I deem it valuable for many reasons, among which are the following. 1. It furnishes the first spring bite, so grateful to the stock of all kinds. Cows are

very fond of it until its culms or stems become dry, when these are pushed aside for fresher grass. 2. It possesses an aromatic principle capable of communicating a delightful flavor to the milky products of the cow, as well as to the meat of sheep and other stock grazed upon it. It furnishes a fine aftermath and rich autumnal pasturage in moist seasons. These, I think, are sufficient reasons for regarding the sweet-scented vernal grass, making, as it does, an important portion of all the best pasture lands of Europe, worthy the attention of the American farmer. As the seed sells readily here for seventy-five cents to one dollar per pound, a bushel weighing six pounds, being sufficient to sow two or three acres, some might think this alone a sufficient inducement to enter into its culture. Hoping that those who may read this, and have the opportunity, will refer to my former communications relative to this grass, I remain,

Respectfully, G. EMERSON,

Philadelphia.

For the Farm Journal.

EUROPEAN AGRICULTURE.—No. 6.

History of Limestone and its Constituent elements from 1775 up to the present time.

LEIPSIC, Feb. 1854.

Mn. Editor:—It was not until the year 1775 that the difference between the limestone and burned lime was fully recognized, or the cause of it understood. A short time previous to this period, an important discussion arose in England among physicians as to the best means of removing the urinary calculi, in cases where such depositions took place. They sought medicines to dissolve the calculi, and thus remove them from the body. For this purpose, lime water was recommended: but that made from limestone was better than that made from oyster shells. A Joseph Black, who was one of the first promulgators of chemical science in Great Britain, entered into this discussion. He, as did the physicians of his time, sought the remedies for this most painful of diseases in alkaline substances, and to develop their resources, undertook their investigation by experiment. He commenced his investigations under the erroneous impressions of the times, that by burning mild lime or magnesia, or the carbonated (mild) alkalies, they become caustic by the absorption of this fire material or phlogiston. He knew that caustic lime, exposed a long time to the air, lost its causticity and became mild lime. He reasoned that if its causticity was due to the presence of phlogiston, it must become lighter when this left it, but, on the contrary, he found it became heavier. He found that with magnesia the same effect was produced, and that after burning, the magnesia was much lighter, and no longer effervesced with acids, but it formed the same salts with acids as when the unburned magnesia was heated with them; (i. e. that whether burned or unburned magnesia was mixed with the oil of vitriol, the result would be the same; Epsom salts would be produced.)

The next object was to find what substance left the magnesia when it was burned, by which it became lighter. Accordingly, he put a weighed quantity of the unburned magnesia in a glass retort, which was placed in connection with a well cooled condensing apparatus, and then the glass heated to redness. By this means he only obtained a few drops of water in the condensing apparatus, while the retort lost quite a considerable portion of its weight.

The next conclusion was that the loss of weight was due to the evolution of a gas; and that it was the same that passed off when the unburnt magnesia was heated with an acid. Thus were two important starting points reached. The magnesia alba of the physicians was made by burning

magnesia, and dissolving the caustic substance formed in water, and to this solution adding a solution of the ley obtained from ordinary ashes, when the magnesia alba would fall to the bottom of the containing vessel, and the liquid over it could be poured or filtered off.

This magnesia alba, effervesced with acids, was insoluble in water, possessed no causticity, and lost weight by heating when it became caustic; but on solution of this caustic magnesia in water, and adding a ley solution to it, the magnesia alba was produced again.

Black went to work to find the source from which the caustic magnesia derived its gas when in solution, by which it was thrown down from the solution, and took on the properties of the mild magnesia, or the magnesia alba. He concluded that it could only be obtained from the ley which was added to the solution; that the gas was in union with the ley salts, (potash and soda,) and that when these came in contact with the caustic magnesia, this gas left them and united with the magnesia and made it fall out of solution. To confirm this idea, he made a quantitative examination thus: He weighed a portion of magnesia alba, and then heated it to drive off its gas, and dissolved the caustic magnesia thus obtained in dilute oil of vitriol, (by which it was converted into a solution of Epsom salts,) and to the solution added a potash solution, (solution of carbonate of potash,) and obtained a white precipitate of magnesia alba, which was separated from the water, dried moderately, and weighed, when the weight was found to be very nearly equal to that of the magnesia alba first heated. The conclusion was satisfactory, that the gas obtained from the ley or potash solution, was identical with that driven off by the heat, or expelled with effervescence by acids, and that this gas entered into combination with lime magnesia and the alkalies of ashes. He gave it the name of *fixed air*.

It could be driven out of the first two by heat, though not out of the last; but acids expelled it from them all. That the earths and alkalies owed their causticity, when this gas was driven out of them, not to the presence of a fire material; not to phlogiston, but to their own peculiar properties when not in combination with fixed air.

But the world was not prepared to give up its long cherished phlogiston theory. This was modified to suit the increased knowledge of the times, and still clung to by the opponents of Black; and many plausible arguments were adduced to maintain the fast falling theory of the day. Its last important modification to suit the times, was in 1764, by John Frederick Meyer, and a few years after, it was abandoned as untenable by the principal part of those interested in the subject.

Between the years 1770 and 1780, a new era dawned upon the chemical world through the efforts of the immortal Lavoisier, who first introduced the balance into the hands of the chemist, and taught him that his business was to investigate, observe and weigh; and thus get facts from nature with all possible accuracy, instead of following investigations suggested by the imagination with no other view than to establish some old theory. The sphere of his activity was in France, where, after rendering his country lasting services by his discoveries in science and art, he was put to death to gratify the murderous hate of Robespierre, (1794,) in the fifty-first year of his age.

He struck the final blow to the phlogiston theory, and this out of the way, the progress of chemical science was more rapid.

The experiments of Black were confirmed, and the study of this fixed air and that of lime became distinct objects of investigation. It is interesting to contemplate the efforts of philosophers to ascertain the character of this fixed air. It

was not known as a gaseous substance previous to the 17th century.

The effervescence of the mild alkalies with acids was, as already noticed, known much earlier; and that a peculiar air was emitted from some holes in the earth, was noticed by Pliny; and others noticed, at earlier periods, that some mineral waters were strongly impregnated with a peculiar air. In the beginning of the 18th century, several attempts were made to describe a peculiar ariform body, but nothing definite was reached before the time of Black, (1757); and from this time to that of Lavoiser's investigations, there were but vague ideas of its real character entertained by those who considered the subject. It had various names. Macbride found, (1764,) that it was formed by the decomposition of organic substances. He found that blood, when first drawn from the veins, contained it. Cavendish found, (1767,) that a stream of this fixed air, passed into lime water, would throw down all the lime, out of the solution; and that by a still greater quantity of the gas, the lime at first thrown down would dissolve again; and thus explained how lime stone could be dissolved in water holding fixed air; also why, by boiling the solution holding the limestone, the latter was separated as grounds in the kettle. Lane showed, (1769,) that water containing fixed air was a solvent of iron and zinc. Bergman, (1774,) gave a history of fixed air, and called it air acid, (*acidum areum*.) He first introduced the idea that it was an acid; and further—that it existed in the atmosphere. Keir, (1777,) named it lime gas. Bucquet, (1773,) called it chalk gas. Morveau, (1782) called it *nephétique acide*—foal acid—and its combinations he called mephites, as the mephite of lime, mephite of magnesia—carbonate of lime and magnesia. It was often confounded with another gaseous substance, about which nothing was definitely known, viz: nitrogen.

Finally, in 1781, Lavoiser in a memoir before the Paris academy, gave its constitution, and named it *acide carbonique*, or carbonic acid.

In 1771, '72, '73 and '74, the subject of the discovery of the element oxygen, was, for the first time, before the scientific world, and to the consideration of it lead Lavoiser to a more careful examination of carbonic acid, and, in the memoir already noticed, he considered the fixed air a compound of oxygen and ordinary coal, or carbon. In 1783 he published an analysis of it, giving the amount of carbon and oxygen it contained. (The analysis was far from correct, but it was the first of a series that finally established the amount of each.)

To follow out the history in detail, would lead us entirely away from the subject of lime. We have traced limestone till we find its investigators examining its carbonic acid, and now we have arrived at the period at which this is found to be a compound body, and the history of its oxygen and carbon present separate themes, which, perchance, the farmer, for whom we have endeavored to write, might deem tedious.

To return. Carbonic acid was known only as a gas from the time of Black, (1755,) up to that of the world-renowned English philosopher, Dr. Farady, of the present day. In 1823, this man, by an ingenious contrivance, submitted the gas to an enormous pressure, and found that at 32 degrees, with a pressure of 546 lbs. to the square inch, it became a transparent, mobile fluid; and in 1835, Thilorier succeeded in solidifying it when it had the appearance of silky asbestos. By the evaporation of this body, the most intense degree of cold known is produced, being about 175 degrees below zero.

To attempt to enumerate the combinations with other bodies of this acid and its elements—about which nothing was known one hundred years ago—that are now definitely

known to chemists, would require a small volume of names, which, for the present, may be omitted, while we proceed to follow up the subject of lime. From the discovery of Black up to the beginning of the present century, caustic lime was considered as a simple, elementary body, but by the investigation of Sir Humphry Davy, at this period, it was proved to be a compound of oxygen, and a metallic substance—calcium. And thus our knowledge stands at the present time: that carbonate of lime, or limestone, consists of caustic lime and carbonic acid—making pure limestone. The first consisting of calcium and oxygen, the last of carbon and oxygen.

Mineralogists distinguish two different kinds of pure limestone, dependant upon difference of chrysaline form. They are calcite or calcareous spar, in Rhombohedral form, and Arragonite, of prismatic (Primitive) form. This difference was noted by Werner, in 1788, and later, Haüy, a great mineralogist, showed that the two forms were totally different, indicating, as was then thought, a difference of composition. In the same year, Klaproth showed that the composition of arragonite was identical with that of calcite. Kirwin, 1794, suggested that the difference in form was owing to the presence of strontium in arragonite, but Vanquelin, 1803, Buchholz, 1804, Thenard, 1806, Biost, 1807, and Stromeyer, 1813, all sought in vain to find the strontium; but it remained for G. Rose, in 1839, to show that the different forms assumed by the chrystals, was owing to the different temperatures at which they were chrysalized.

We shall draw this subject to a close in the next article, with a few remarks upon some other compounds of lime and their relations to agriculture, after which it is to be hoped the winter will be over, and we can consider some subjects more closely connected with this part of the agricultural world. The winter set in cold, but about the 1st of January it moderated, and was very warm and pleasant nearly all the month. Now it is a little colder, and we have some snow.

Yours, &c.,

E. P.

For the Farm Journal.

TREES.

One of the most important and necessary offices (duties) of a farmer's paper is to expose and correct the many gross errors, which gain prevalence in regard to various departments of culture; for some of these errors occasion sad waste of money, time, care and enjoyment, and being often tenaciously held to, even experience itself can seldom reach or lift the veil that hides the truth. Thus, it is said to be impossible to persuade the inhabitants of some of the West India Islands to feed oats to horses—they are too well assured that they are unwholesome, if not poisonous!

One wrong and mischief working opinion held by a majority of persons who plant trees for the first time, is: That having been accustomed to admire trees in the woods, which have grown up in each other's shade, with long clean stems, handsome and well adapted for making rails or boards, therefore a nursery fruit tree, to be handsome, must have a similar form, as if its stem, too, is to be used, forgetful of this essential difference between the two, that *on the timber tree the fewer branches the better, but on the fruit tree the branches are the valuable and productive part*, and the stem is only serviceable as a pillar, firm enough to support the branches, and as a collection of sap-pipes competent to carry up sap enough to supply every branch, leaf and fruit through the driest weather.

The planter, with rail timber in his eye, does not like a fruit tree with a strong, rugged, tapering stem, especially if it is scarred with the marks of branchlets which have been left on to increase its size and strength, and afterwards re-

moved; or if it set with "spurs," the rather rough looking marks of fruitfulness; but he is delighted with trees that, by growing closely in a nursery and early disbudding, have run up in each other's shade just as slim and clean as plants in dense woods. There may be some "spinal curvature,"—a drooping of the head, but it can be straightened—the trees are just the thing, and when set out look quite imposing. Such trees *never prosper* in the orchard. The delicate narrow-chested dandy might as well be exposed to the hardships of backwoods' life, and expected to "subdue the wild" as that the slender, few piped, thin barked, high stemmed tree should be expected to withstand the storms, or make the wide luxuriant top that alone can bear a crop of fine fruit. Any experienced orchardist or nurseryman will witness that the only way to make anything of such trees is to cut their useless stems down to the ground, then, provided the roots are good, and the tree has room and proper culture, it may be of some value in course of time. But as a general thing, such trees are worth about as much for planting as the tops of the White mountains are for farming.

Another common opinion is that *large* trees are better for planting than *small* ones. [It is hard to guess what a writer means by vaguely saying "a large tree." A large plum tree would be but a small apple tree, and a large dwarf pear would be but small as a cherry; and a large apple tree of such sorts as the Summer Rose, Early Joe, Pearmain, or Newtown Pippin, would be quite a small Rhode Island Greening, Baldwin or Fallenwalder.] A farmer once remarked to me that he was convinced of the advantages of planting large trees, for what were largest when he planted eight or ten years before were largest yet, and he pointed to some trees of Pennock apple, Summer bon Cretien pear, and market plums as examples. But these sorts will outgrow others anywhere, and will extend further in one year than many sorts far superior to them will in three or four. In the case just referred to the amount and quality of fruit were in favor of other trees.

The advantages and disadvantages of planting large trees are practically about as follows:

The nurseryman knows that in setting out *small* plants he is certain of complete success with usual care. If he plants larger stalks he must take proportionably greater and greater pains, until he reaches a degree of size (usually that of a plant which has borne one or two crops of fruit,) beyond which the operation is uncertain, and in many cases hopeless of life, and much more of fruitfulness.

Repeated transplantations in the nursery, with a pruning back of the roots each time, greatly relieves the hazard attending the removal of large trees; but this must be skilfully and carefully done, with much pains to avoid causing too great a check in the growth during any one season, or the sap-pipes will become choked or their nice valves decayed. Of course the trouble and time involved will be great compared with the original value of the tree, and its life must be inevitably abridged to some extent; but the fruitfulness of very strong growing sorts will be increased, and their real value enhanced by this course. In the final planting out of such trees they should be under the eye of a skilful gardener or amateur, who will care for them as a mother for a child, especially during the drouths of August.

We cannot expect every man who plants an orchard, and who has also "other fish to fry," to be able to give the close and intelligent attention of the amateur. Such planters will do best to select trees five to seven feet high, well branched, with stiff, firm stems, showing a healthy, ripe, moderately vigorous growth, and, if early fruiting is desired, many short spurs. Such trees, properly planted and duly cultivated and protected, are sure to give satisfaction, and will

yield fruit soon and perfect of its kind, and continue fruitful till a future generation shall rise and bless the hand that planted them.

Mr. Elder says in your April number that nurserymen advise the planting of small trees when *they know* that large trees are best. If nurserymen deserve any imputation of the kind I should think they would be rather chargeable with unjustifiable efforts to get their large trees off their hands, for it is obviously their interest to dispose of such first, before they become too large or inconvenient for safe removal.

"Doctors disagree" on many points. Mr. Mechan, who is, like Mr. Elder, a head gardener, advises particularly, in his late work on trees, that the following* among others should be set out at an early age; as of the beech he says, "for permanent situations a *two year old* plant is better than an older one;" and such advice is universally given by the best authorities. WM. G. WARING.

Boalsburg, Pa., April 27, 1854.

*Hickory, chesnut, beech, hornbeam, persimmon, Laburnum, magnolia, tulip tree, sour gum and white walnut.

For the Farm Journal.

Wheat and Cheat and Wheat and Oats.

MR. EDITOR:—The following fact, though rather old, was called to mind by reading in the April number of your Journal, an article headed "Wheat vs. Cheat Again." If you think it worthy of notice it is at your disposal:

In the summer of '36, while cutting wheat on the Spring Mount farm, in Lyken's valley, Dauphin county, Pa., in a field where oats and spring wheat grew side by side, I found in a growing state a head of wheat with four large plump grains of oats growing together out of the side of the wheat head. I was but a boy then, and did not know where to deposit the curiosity for the benefit of science, (we had not the Farm Journal at that time,) so I cut it off carefully, dried it and put it into a bottle, where I preserved it for several years, showing it to a number of persons, until at last the oats fell from the head, and the whole was cast away as no longer a curiosity.

Mr. Gundy may perhaps suspect this also of being a fraud. If so it was not called forth by any \$100 reward; but, unprovoked and unlooked for, was gratuitously committed by Dame Nature herself. Having, as I stated above, found the head in a growing state and cut it myself from the parent stalk, I am willing at any time to be qualified that it was the work of nature.

I do not mention this circumstance to frighten my fellow agriculturists into the idea that their *wheat* will all turn into *oats*. It was certainly a strange freak of nature, and one in which I presume she does not often indulge. I give it for the purpose of showing that should Prof. Mapes, or Prof. any body else, ever succeed in producing *cheat* and *wheat* upon the same stalk, it could hardly be considered as proof positive that wheat turns to cheat, or cheat to wheat.

My motto is *clean seed upon clean soil*, and a clean harvest may be looked for. Firm in this belief I have sowed in my garden a small patch of wheat, which one of my neighbors, a transmutationist, has undertaken to turn into cheat, for which service he is to receive my whole farm and stock when the job is completed. Would not some of your subscribers add one or two more farms to his reward. They will be dearly earned.

Yours respectfully,

Moss Grove, April 14, 1854. FRANCIS SCHREINER.

MR. DARLINGTON:—The farmer who takes care of his health, his family and his farm, and subscribes for the Farm Journal, is sure to prosper. S.

HORTICULTURAL IMPLEMENTS.

We continue from last number a series of cuts representing the most approved horticultural implements in use. They are generally made light and strong, of the best materials, and will enable any one having occasion to use them to do more work in a given time, and with less fatigue, than with the old, heavy, clumsy contraptions fast going out of use.

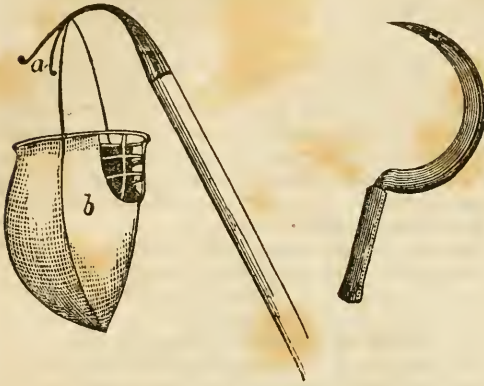


FIG. 1.

FIG. 2.

Fig. 1 is a *Fruit Gatherer*, intended for gathering fruits from branches which cannot easily be reached by other means, and would be injured by falling to the ground. It consists of a canvas bag suspended below a forked iron, to which is attached a long handle. The iron fork is placed across the stem of the fruit, when by a slight pull it is torn from the limb, and deposited in the canvas bag.

Fig. 2 is used for cutting grass in yards, &c. Any one residing in towns or villages where scythes are not at hand, will find them almost indispensable; and even at farm houses, the careful matron after once viewing the damage done by the scythe to her flowers and shrubbery, to say nothing of the uneven manner her grass has been trimmed, would do well to request her mate to procure a grass hook for future use.

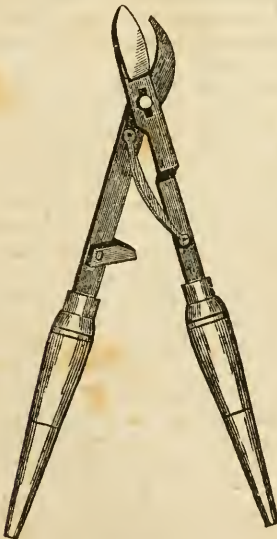


FIG. 3.

Fig. 3, *Sliding Pruning Shears*.—These differ from the last in having a movable motion for one of the blades, by which a draw or sliding cut, instead of a crushing cut, is made, leaving the section of the part attached to the tree smooth.

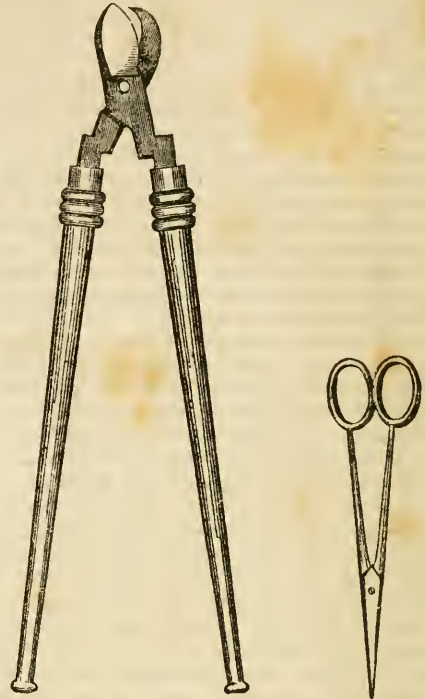


FIG. 4.

FIG. 5.

Fig. 4 is strongly made, with long wood handles, and is used for cutting large branches from trees, shrubbery, &c.

Fig. 5, *The Vine Scissors*, are used for thinning out grapes, when they have set too close in the bunch; also for removing superfluous leaves, twigs, &c.

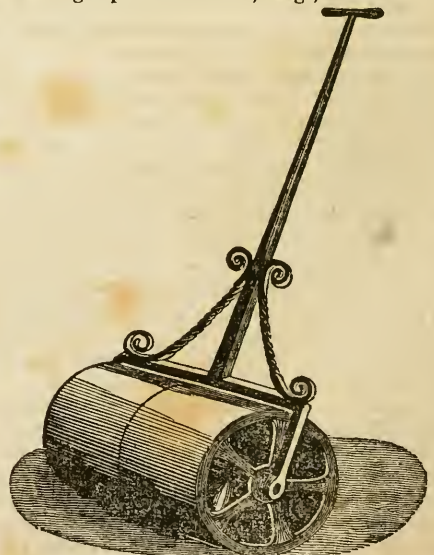


FIG. 6.

Fig. 6 represents a *Garden Roller*. These are made in one, two and three sections, and of different diameters, varying from 15 to 28 inches.

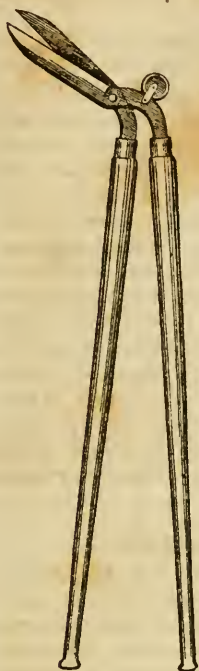


FIG. 7.

Fig. 7, *Grass Edging or Border Shears*, are chiefly used for trimming the grass borders of walks, and carriage roads through lawns, the sides of box and grass edgings, &c.

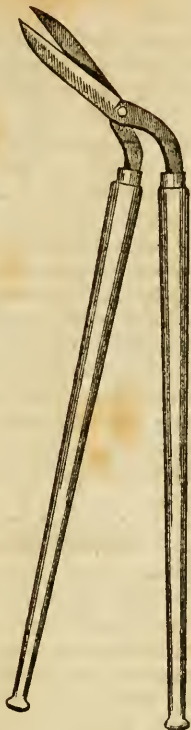


FIG. 8.

Fig. 8, *Grass Edging or Border Shears*, without wheels, differing slightly in shape from Fig. 3.

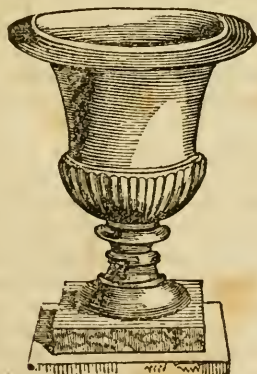


FIG. 9.

Fig. 9 represents a *Garden Vase*, made of cast iron; handsomely ornamented and painted, so as to represent carved stone vases. They are intended as ornaments for yards, gardens, &c., and are of various sizes and patterns. No handsome yard is complete without one or more of these vases.

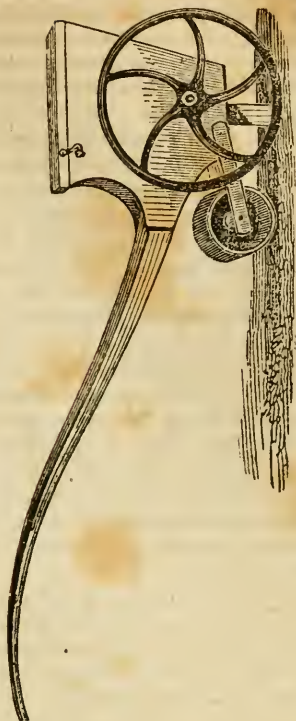


FIG. 10.

Fig. 10, *Small Seed Sower*.—This cut represents a small hand drill for sowing garden seeds. For those who cultivate vegetables to any extent, this will be found indispensable. It is so constituted that it opens the drill, drops the seed, covers it, and rolls it at one operation.

WORK FOR THE MONTH.

FARM.—Where a sufficiency of potatoes have not been planted already, the planting may be continued this month. The corn crop now requires particular attention, and its early growth should be stimulated as much as possible. Superphosphate of lime, a compost of guano and plaster of Paris, with a sufficient amount of soil to prevent its caustic effect, or *poudrette*, should be applied to each hill and well stirred in. The cultivator should be kept at work till harvest time, but the plow kept away. The cut worm will soon be active cool mornings and in damp cloudy weather. Fall plowing, or a dressing of five or six bushels of salt to the acre, before planting, is generally regarded as a preventive. When these have been omitted the cultivation and stimulants should be even more thorough so as to push it forward. Carrots and beets may still be planted in rich, deep soil, and should be attended to at once. Ruta Bagas will do for a month later. Put in corn for fodder, without fail, when there is the least prospect of a short crop of hay. Plaster should be sown occasionally over barnyard, hog pen and stables, as it prevents the escape of the ammonia. Place lumps of rock salt in fields, so that cattle, sheep and horses may have access to them at pleasure. Latter part of this month, hay, particularly where clover predominates, may be cut. Hay should not be stirred often in the field, as its quality is injured by too much drying. Salt spread over the mow prevents danger from heating.

A good revolving horse rake will render hand rakes entirely unnecessary, and save time and labor. Should wages continue as high as at present, those who have much grass to cut will find it to their interest to procure mowing machines.

FRUIT ORCHARD.—This month and beginning of next is the time for regulating the heads of fruit trees, by pinching off the terminal bud, or shortening-in process. The shape of trees is thus under perfect control. Thin out the fruit where too abundant. Mulch the surface of ground under trees to keep it damp. Give attention to caterpillars. Save your plums from the curculio, by striking the tree suddenly with heavy blows with a mallet (taking care not to bruise the bark), every morning, and catch them beneath in sheets spread for the purpose. Try "the little Turk," with the coating of white wash, applied to the fruit through a syringe, or dusting the tree with air slacked lime. One of our friends near West Chester has succeeded well for two or three seasons with these remedies. Such fine fruit is well worthy the trouble of repeating the application for a few times. The peach borer also requires close attention this month, and cutting into his hiding place in the bark just below the surface of the ground. Thin out gooseberries and currants, where the bushes are too much loaded, and cover the ground with salted hay to prevent mildew. Prune grape vines where needed. The productiveness of strawberry beds may be increased by an occasional watering between the rows if the weather should be dry. Wash the bark of trees if not already done. If of sluggish growth, dig in well rotted manure, or guano. If any symptoms of blight appear in pear trees, use the knife immediately, and cut off below the part affected.

VEGETABLE GARDEN.—Most of the early crops of lettuce, radishes, spinach, &c., being now past, the ground should be cleared and prepared for late beets and carrots. Take advantage of moist days for planting out succession crops of cabbages. These may occupy ground in the paths of onion beds. Water cauliflowers in dry weather, and draw up earth to stems. Such as are advanced in flower should have the leaves bent down over them to protect them from the sun and rain. Thin out beets, carrots and parsnips. Stir frequently and deeply with the hoe, and keep down all weeds. Kidney beans may be planted, and beet seed. Re-sow such seeds of brocoli, cauliflower and cabbage as have missed. Celery plants that have arrived at sufficient size should be planted out for early crop. Dig a trench spade deep, laying the earth equally on each side, and fill in bottom about three inches deep of well rotted manure, incorporating it well with the soil. Cut off the tops of plants, and also ends of roots, before setting out, and then plant six inches apart. Water well as soon as planted, and shade with boards laid on sticks across the trench till growth is established. Earth up in a dry time as the plants continue growing, and avoid covering the heart, repeating it every two weeks till sufficiently blanched. Cucumbers, melons, pumpkins, squashes, okra, peas and corn may still be planted. Set out sweet potatoe sprouts in rows, four feet apart, in rich light soil, and keep clear of weeds till vines cover the ground. A small quantity of turnip seed should be sown this month for early au-

tumn use. Plant out the balance of tomato, egg plants and pepper, also pot and other herbs from seed bed. Herbs for drying should be gathered as they are beginning to come into flower, and laid in the shade so as to dry gradually.

FLOWER GARDEN.—Continue the directions given last month. Mow grass plots and follow with the roller. Secure the young shoots of roses and flowering plants to stakes or main branches, to prevent being broken with the wind. This gives them a good shape, and they will flower better for it. Hoe and rake flower beds and walks frequently. It adds much to the appearance of a flower garden. Transplant annuals in damp weather, and sow again for late blooming. Greenhouse plants generally may be planted out this month. Continue to plant dahlias. Drive a strong stake down firmly beside each one, and secure it safely to prevent being broken with the wind. Tuberoses and gladioli may still be planted. Tulips and hyacinths are improved by being lifted once in two or three years, and replanted in fresh soil, or the old one enriched, observing after lifting to stow away in a dry airy place, and plant again in the fall. Bulbs should be lifted when the tops have decayed.

AGRICULTURAL GLEANINGS.

[A friend of ours—an intelligent and successful farmer—has been in the habit, during the last thirty years, of jotting down in his note book every fact that he came across, whether by reading, conversation or otherwise, that appeared to him as likely to be useful at some future time, either as a matter of reference, experiment or comparison, in the practical operations of his farm. The habit is a good one, and well worthy of imitation by every farmer. We select from our friend's note book, which he has kindly lent us for the purpose, a few of his gleanings, and will continue them in future numbers of the Journal:]

Select the largest and flattest onions and the largest potatoes for seed, or the crop will degenerate.

Seeds when not sufficiently ripe will swim, when ripe will fall to the bottom—a fact said to hold good with all seeds.

Vermin on cattle are effectually destroyed by a mixture of Scotch snuff and train oil, rubbed along the back and neck.

HORSE MEDICINE.—To give them a good coat, take swelling from their legs and put them in good condition. One lb. of nitre, $\frac{1}{2}$ lb. of flour brimstone mixed with molasses, and made in balls the size of a hen egg, one given each day till all is taken. This is said to be the best medicine (for what it is intended) that ever was given to a horse.

BRUISES AND SPRAINS.—Dissolve one oz. of camphor in 8 oz. spirits of wine, then add 1 oz. oil of turpentine, 1 oz. spirit of sal ammoniac, $\frac{1}{2}$ oz. oil of origanum, one table spoonful of laudanum, well rubbed in a quarter of an hour each time, 4 times a day. The effect is very great.

GATE POSTS.—That part which goes in the ground should be charred or prepared by tar or pitch. Posts will last longer if their natural position be reversed, that is, the top end of the wood put in the ground. The

top of the post should be sawed sloping, at an angle of about 45 degrees, and have a board nailed on it about two inches broader and longer than the square of the post.

GATES should be barred from eight to nine feet long and from four to five feet high. In order to hang them to shut well when the post is in a true perpendicular, draw a plum line on it; on this line, at a suitable height, fix the top hinge to project three inches and a half from the post, the lower hinge is to be put $1\frac{1}{2}$ inches to one side of the perpendicular line, and to project two inches from the post.

PASTURE.—Elevated dry land is best for breeding sheep, low fat land for fattening cattle. Old pastures are best for fattening stock, while new lays are more fitted to feeding young store cattle. Nothing improves pasture land more than a judicious top dressing of lime, lime compost, artificial marl, well rotted dung or the compost of urine and dirt.

ROLLING two or three times in the spring at proper intervals is a benefit. As clover strikes root from every branch in contact with the ground, it will produce a fine thick sward that will cover the whole surface of the pasture, and flourish among the most parching droughts.

TIME OF TURNING TO PASTURE.—When cattle are turned early to pasture they eat off the central stems of the plants, on which they shoot out new leaves around the first joint of the stems; when left late the pasture is more coarse and does not reproduce so well. The time for turning on clover is when it is about shoe top high.

MEADOW.—No land will make good meadow unless it be sufficiently deep to admit the roots of grass to run down out of the reach of summer heats, and also sufficiently retentive to hold water long enough to produce fermentations, together with such an absorbent substratum as will drain it before putrefaction takes place, and if it be not so by nature it must be rendered so by art.

A TABLE to tell the number of loads of manure for an acre at certain distances, and so many heaps to the load:

No. of heaps to a load,	Number of Loads per Acre.							
	1	2	3	4	5	6	7	8
At 5 yards distance,	193	96	64	48	38	32	27	24
At $5\frac{1}{2}$ yards do	160	80	53	40	32	26	23	20
At 6 yards do	134	67	44	33	26	22	19	16
At $6\frac{1}{2}$ yards do	114	57	38	28	22	19	16	14
At 7 yards do	98	49	32	24	19	16	14	12
At $7\frac{1}{2}$ yards do	86	43	28	21	17	14	12	10
At 8 yards do	75	37	25	18	15	12	10	9

Explanation of the first two rows of figures in the preceding table: The number of heaps of one load each laid at five yards distance from each other is 193 loads per acre, at two heaps to a load 96, at three heaps to a load 64, at four 48, and so on to the end, each of the following rows read in a similar manner.

IMPROVED FARMING.

One of our correspondents having taken in hand the subject of "High Farming," we have a few words to say appropriate to the season on "Improved Farming." Another branch of the subject may well be styled "Low Farming," and which we may advert to at another time. Improved Farming may be defined to be that system of cultivation, which extracts from the soil the largest

amount of production, in the shortest time, and with the least outlay of money and labor.

We have always endeavored to avoid recommending to our readers the adoption of new theories, however plausible in appearance, which would tend to lead them into unproductive outlays, and are more suitable to the amateur than the practical farmer. We would not *adopt* every new ism or ology or pathy that is brought up; neither should we *reject* every innovation on our established systems. Either extreme is to be equally avoided, and to adopt or reject indiscriminately is as rational as the position of the politician, who defined his position as one "favorable to *all* the great questions of the day."

There are certain improvements we would urgently bring to the notice of our readers, as having passed through the necessary ordeal of a full trial by practical experiments, and which can be recommended without the least hesitation. That they are but *slowly* working their way to favor is but evidence of the prudent hesitation, which all those who earn their bread by hard labor do and should feel before abandoning old and well tried systems.

From our own experience and observation, the following comprise some important improvements in farm management, attention to which is more or less neglected, and will be found highly profitable. They may be considered a kind of synopsis of improved farming:

1. Corn sown for fodder.
2. Root culture.
3. Deep plowing and subsoiling.
4. Proper management of manures.
5. Proper application of manures.
6. More attention to fruit culture.
7. Greater use of improved and labor saving implements.
8. The keep always of the best stock of all kinds.

By the time this number reaches our readers, it will be the proper time for sowing corn for fodder. Hay is increasing highly every year. The great increase of railroad facilities enables the farmers to pack and forward it to the large cities to very great profit. To sell off a crop of hay will impoverish a field less than a crop of grain. The exhaustion of a soil is a general term, often used without a precise meaning. Different crops exhaust a soil of different constituents, and it is the succession of the same crops which may be said truly to exhaust the soil. If a good substitute exists for the consumption of hay on the farm, and of a less merchantable article, more hay can be sold and more profit obtained.

It may be safely asserted that on an acre of corn fodder, properly cured and cut by a machine, more nutriment is obtained for stock through the winter than at least four acres of hay. We believe it would enable the farmer to keep *better* four times the amount of stock than could be kept on one acre of hay. To those who doubt this, we say try one acre or half an acre. Some disappointment has ensued to those who have tried sown corn fodder, for bad management, not only in preparing the ground, but also the manner of seeding and curing. It should never be sown broadcast, but in rows three feet apart, previously marked out with the plow. Plow well and deeply, manure heavily, pulverize thoroughly,

and sow at the rate of three to three and a half bushels to the acre. A couple of men can go over in this way six or seven acres per day. The covering may be done with a harrow run lengthwise of the row. We will speak of euring it hereafter. In a dry season and short pasture, *green fodder* is a most excellent substitute for grass, and some of it should be sown for this purpose, independent of a supply for winter feeding. We have known milch cows to increase greatly in their milk when fed with it as a change from even the best pasture. We see asserted in some of the papers that cows in calf require *rest*, and should not be milked too near the time of calving for fear of injuring the fetus. The phosphates in the milk should be reserved to form bone in the calf. This is all nonsense. In our dairy if a cow don't milk up to within a month of calving with *proper food*, such as corn fodder and roots, she goes to the butcher, unless possessed of some *very extraordinary* counterbalancing properties.

2d—ROOT CROPS.—We have no idea roots will ever be in this country an entire substitute for Indian corn, or that they can supersede the latter for fattening animals. To claim too much for any new method often retards its introduction more than to claim too little. What we claim for roots is that they are an invaluable *adjunct* for winter feeding, milk to a much later period than they otherwise would go, improve the quality of butter, and promote the health and thrift of stock cattle, cows, horses and sheep. Like corn fodder a crop of roots is not exhausting to the soil, and when well cultivated leaves it in fine condition.

The first of June is a good time for sowing sugar beets or mangel wurzel, and the first of July for ruta bagas. Of the former we raised one season 1500 bushels and fed them with great advantage. The seed should be soaked a couple of days previous to planting, so as to germinate rapidly. The rows should be not less than three feet apart, so as to admit of the passage of the horse and cultivator, and sufficient seed should be used to avoid the necessity of transplanting. They should be thinned out to six or eight inches apart in the row. We feed sugar beets to stock without chopping up, and never found any inconvenience or danger from choking.

We shall speak of the other items of "Improved Farming" in next number.

CAPITAL IN FARMING.

Although from general practice it would appear that agriculture is thought to differ from all other kinds of business, and not require capital to conduct it, we do not think so, and consider this very mistaken supposition as one of the great errors and hindrances to agricultural improvement.

A person buys a farm for \$10,000. He stocks it for \$2,000 more, and considers no further outlays necessary, that the farm must hereafter support itself, and any nett income beyond family and farm expenses should be placed out at interest, and it is, as we think, actually to the last dollar, abstracted from its proper and legitimate duty on the farm.

A manufacturer, mechanic or merchant would use the same surplus to increase their facilities for doing more business, buying new machinery or tools, new varieties

of goods, or seeking new avenues of trade. Instead of taking it *out* of their business they would reinvest it.

A gain of six per cent. to a farmer is often a loss of twelve per cent. from the farm. A large meadow of ten acres is laying comparatively idle, or producing only tussocks and sedge grass. Indeed we were once told by a farmer of the old school, who had in front of his house just such a piece of land, "that it looked very well before you went on to it, and the drovers would pay as much for a night's pasture as if the grass was good." Supposing this meadow to cost \$100 per acre (\$1,000), and to yield a nett profit of ten per cent, or \$100 in its present condition, it would be a fair calculation to say, that if properly drained its nett produce or profit would be \$200, or twenty per cent. on cost. But to do this would prevent the owner from placing out at interest at six per cent. \$200, the sum necessary to drain it. He therefore lets it remain, and for want of investing this \$200 additional capital in his business sustains a loss annually of \$88, or over forty per cent on \$200.

A farmer may buy a cow for \$25, making five lbs. of butter per week. For \$50 he can buy a cow making ten pounds per week, and requiring no greater expense to keep her. By putting the extra \$25 out on mortgage at six per cent., instead of investing it in a good cow, he loses in six months the interest on \$400 for one year, counting the butter at 20 cents per pound.

The same reasoning may very often be applied to improved implements, manures and many other matters of daily observation on the farm, where capital can be used to as much or more advantage than in any other business.

We merely wish to call the attention of farmers to this subject at present to do away with a very erroneous idea, that farming can be carried on without any capital beyond the first outlay.

For the Farm Journal

Facts and Principles in the Chemistry of Agriculture.

BY J. S. HOUGHTON, M. D.

Many persons who undertake to learn any science think that they must try and remember a *whole book*, with all its words, its illustrations, its tables, its discussions, and even its preface and index, and in despair of doing this give up the task of learning any thing as hopeless. Now the true way of reading with profit is to pay no special heed to the words of the author at all, unless they are, for a single line or sentence, particularly striking or beautiful, but to try and catch the chief thought, if it has merit, and make that thought your own. There is a vast deal of difference between having an intelligent knowledge of a book as you read it, and making the substance of the book your own, so that you can give it off from your own mind either in conversation or writing.

The real matter of a book on agricultural chemistry, for instance, may be set down in a few brief notes, on half a sheet of paper, perhaps, and yet the author will spread it out, *in words*, through two or three hundred pages. Now if you mark the important parts with a pencil as you read, and then draw off these facts as principles, on a bit of paper, the act of *reflective attention*, which this process requires, will enable you to

transfer the gist of the book to your own mind, as well as to the paper. Great facts and principles require elucidation it is true, but I have often thought that they were comparatively lost to the general reader, when embodied in long pages of close type, instead of being separated and put distinctly before the eye in bold, brief declarations. A good illustration of the difference between a book as written and its real matter, may be seen by looking at Prof. Norton's Prize Essay on Agriculture, published by the New York State Society. In that essay Prof. Norton first writes out the matter in words, and then gives a review of its contents, not in an index above, but in a brief abstract of notes, stating in half a dozen pages, or thereabouts, the substance of more than a hundred probably. Young readers should make such abstracts of all scientific works for themselves.

In this article, I propose to give you a few facts and principles in agricultural chemistry, without many words about them, to show how they look thus separated.

Organic Elements of Vegetable Matter—Oxygen, Hydrogen, Nitrogen and Carbon.

Inorganic Elements consist chiefly of four acids and four alkalis. The four acids are silicic acid, phosphoric acid, sulphuric acid and muriatic acid. The four alkalis are potash, soda, lime and magnesia.

It is useless to give a plant abundance of any one of its constituents—lime for instance—unless you are sure at the same time that the other ingredients are present also.

Ammonia is the great stimulant of vegetable growth, without which all other nutriment may remain inert and dead. It is a compound of nitrogen and hydrogen gases.

Nitrogen is the nutritious, or flesh making principle of vegetables. It is found in great abundance in some grains (as wheat), and such grains are always exhausting to the soil. Carbon, in the shape of gum, starch, sugar, butter, oil, fat, syrup, &c., never enters into the composition of flesh to any great extent, and is chiefly used to admit breathing, and to sustain the heat of the body by being consumed in the lungs. It is also deposited in the body as fat.

In the germination of seeds a small portion of vinegar, or acetic acid, is found. Alkalies, as potash and soda, combine with and neutralise this acid, and thus assist germination. Hence one important use of wood ashes, containing potash, in the hill with potatoes.

Organic matter as muck, leaves, tan, sawdust, &c., can be of little use until it has undergone decomposition, so as to put its salts and gases in a condition to be taken up by plants. Hence the reason why some persons find so little benefit from the use of raw muck, half rotted tan, &c.

Peaty soils are always acid. Seeds will not germinate well in such a soil without the aid of potash, soda and lime to neutralise the acid, and perfect the decomposition of the organic matter.

Lime, in a caustic state, possesses the power of setting free, or bringing into action the potash which a new soil may contain, and hence may serve as good a purpose as lime and ashes.

Anthracite coal ashes are of little value in agriculture except to open a heavy clay soil. The chief ingredients

of any value are charcoal and sulphate of lime or gypsum.

Charcoal decays very slowly under ordinary circumstances. It will last fifty or a hundred years in a dry loam, perhaps longer. In a moist soil, rich in muck, it decays more rapidly, and furnishes carbonic acid to plants or carbon. It is chiefly valuable, however, as an absorbent of ammonia, and for giving a dark color to light sandy soils. It also retains moisture.

Nitrates, as nitrate of potash (saltpetre) produce straw in grain; sulphates, as sulphate of soda and sulphate of lime, promote the growth of grain, beans, peas, &c.

It is not known how far soda is able to take the place of potash in the soil, or whether it is indifferent which of the two alkalis is supplied to plants. It is better to furnish both soda and potash when absent from the soil.

Phosphate of lime is a combination of lime with phosphoric acid. It is the chief constituent of the earth of bones. It exists in the seed of many plants, in all the varieties of grain which are cultivated for food, and in the ashes of most common plants. It exists also largely in milk. It is almost always deficient in the soil.

A sandy soil admits the heat of the sun more rapidly, and retains it longer, than any other soil; but it is not so retentive of moisture. The application of charcoal and salt increases the moisture of sandy soils, and so does deep plowing.

The roots of plants require a supply of oxygen in order that they may be maintained in a healthy condition. The atmosphere and water furnish a supply of oxygen, but such possibly can only be obtained where the soil is sufficiently open to permit the free circulation of air and water among its pores, and to carry off excess of water, or water robbed of its fertilizing properties. Plow deep and drain.

Sulphate of lime (plaster of Paris) requires much heat and moisture to render it useful on land. In dry seasons sulphate of soda (Glauber's salts) will prove more beneficial. Bones dissolved in sulphuric acid and common lime are generally more valuable than gypsum.

Quick lime expels ammonia from decomposed or fermenting manures. Lime should never be used in the manure heap, unless covered with a large quantity of well pulverized muck.

Lime has little or no effect upon soils in which loam or vegetable matter is deficient. The effect of lime is, in fact, to eat out vegetable matter.

It is important to bear in mind that the application of lime, soda, potash, or bones, forms a *primitive addition* of mineral or inorganic matter to the soil, while by plowing in green crops we return to the land only the inorganic salts which the plants have taken from it during their growth—the rest is organic matter.

Plants require all their constituents present in the soil, in small quantities at least, to furnish a full crop. Hence the principle that the more various the fertilizing materials added to the compost heap the better, if a good supply of dry muck be supplied to absorb the ammonia produced by decomposition.

Potatoes and tomatoes flourish best in soils which are not very rich in nitrogen. Pig manure and night

soil are not useful for these crops unless very minutely divided by loam. The chief ingredients of potatoes are carbon, in the shape of starch in the organic portion, and potash in the organic constituents. Hence fresh muck and ashes are the best fertilizers.

Turnips require less organic matter (loam or mould) than many other crops. Their chief constituents are phosphate of lime and potash.

Peat meadows require sand to render them fertile as imperatively as sandy soils require muck.

And so I might go on through fifty, or any indefinite number of columns, giving facts and principles observed in reading, which are worthy of being specially noted and remembered. I have taken these few passages at random from some works lying near me at this moment, partly copied and partly made up from hints which met my eye. I have done this, not so much on account of the great value of the facts set forth, as for the purpose of showing the student in these matters how much clearer a fact looks, and how much more easily it may be studied and remembered by separating it from the substance of a volume as above.

Now if the reader of this article had just read the works from which the quotations are made up, and then had exercised his eye and mind and hand in the art of selecting and writing down the passages, he would readily suppose that he would be more likely to remember them, than if he had only glanced his eye over them in the comparatively *passive* reading. I trust that the valuable *snippets* here given will not be lost upon young men who are ambitious of acquiring knowledge.

Philadelphia, April, 1854.

For the Farm Journal.

TIME FOR CUTTING HAY.

MR. DARLINGTON:—The practice among farmers of permitting grass to stand in most cases until the seeds are formed, and not unfrequently until they are ripe, has become so general that it seems almost folly to call in question its correctness; but it is so manifestly at variance with reason and analogy, and with the experience of those who have thoroughly tested the merits of early and late cut hay, that it may be worth an effort to arrest the popular custom.

Science has long since incontestably demonstrated that plants in arriving at maturity have large quantities of their *starch, sugar and gum*—their most nutritive elements—converted into woody fibre, which contains comparatively very little nutriment.

Experience has proved that cattle will *thrive* on hay cut before the seeds were formed, while the same cattle when fed on larger quantities of the same kind of hay, but cut after the seeds were ripe, required the addition of grain to “keep them up.”

Again: When the experiments of making sugar from corn stalks were being tried some years ago, it was found that to retain the saccharine matter in the stalks, the ear shoots had to be stripped off as soon as they made their appearance, as they became worthless. The moment the ears or seed commenced forming, the starch, gum and sugar left the stalk and became concentrated in the grain, and of course the stalks, to the sugar maker,

were valueless. This observation and reason has taught man. The *instinct* of animals—an unerring guide as to what is best suited to their wants—leads them to prefer the early to the late cut hay, as every observing farmer is aware. Even when in pasture they invariably leave the ripe stalks and eat only the younger shoots, although they may have to pick it blade by blade, and are compelled to be constantly feeding to get a sufficient quantity, while the ripe grass stands thick, affording abundance in quantity.

The proper time to cut grass, I repeat, is when the heads begin to bloom. It will not make as much hay, but an acre thus cut is much more nutritious, and will go much farther in keeping stock than if left for the seeds to ripen. Any one who will try this experiment will never again leave it to ripen, although by so doing he may save himself some trouble in the making. J. G.

Chester county, May, 1854.

For the Farm Journal.

The Dignity of Labor.

In the earliest times the occupation of the husbandman was held in honor, not only for the profit which it brought, but from the circumstance that it was supported and protected by the fundamental laws of the State. All who were not set apart for religious duties, such as the *priests* and the *Levites*, whether inhabitants of the country or of the towns and cities, were considered by the laws and were, in fact, agriculturists. The rich and the noble, it is true, in the cultivation of the earth, did not always put themselves on a level with their servants, but *none were so rich or so noble as disdain to put their hands to the plow*.

The esteem in which agriculture was held diminished as luxury increased, but it never wholly came to an end. Even when most of the Jews had become merchants and mechanics, the esteem and honor attached to this occupation still continued, especially under the dynasty of the Romans, who were agriculturists from motives of religion.

The inhabitants of the old world possessed a knowledge of agriculture. Man, we are told, was made to dress and till the earth; Cain was a husbandman, as was also Noah, who, besides, understood the planting of vineyards. *Pasturage* is an occupation coeval with the birth of man. Adam had dominion over cattle. Cain and Noah, in their agricultural pursuits, must have included pasturage, and Abel seems to have been exclusively occupied as a keeper of sheep. From the circumstance of the early post diluvian patriarchs constantly migrating from place to place, there is good reason to think that pasturage occupied so much of their attention as to form their almost exclusive employment. The golden age of the heathen world was said to be under the government of “shepherd kings,” and it may be reasonably supposed that in the world before the flood, the same occupation ranked high. In fact we find this distinctly intimated in Scripture. W. H. D.

For the Farm Journal.

Origin of the State Agricultural Society.

MR. EDITOR:—The details in your last number as to the origin of the State Agricultural Society do not give

the whole history. There were some intermediate movements that should be recorded. The great difficulty was to get action; there were at that time but two or three county societies in the State, and it seemed impossible to procure an expression of opinion from these quarters, whose aid was felt to be necessary to secure. Most, too, of the older and more cautious Pennsylvanians in this quarter doubted even the possibility of interesting the farmers sufficiently to induce them to come forward, and take a part. To test this, as far as could be done, a request was sent to the Bucks County Agricultural Society asking them to send delegates to meet our Society. Twelve gentlemen came, but so little interest was felt by the larger portion of our members, that but four were present, Mr. Clement, Mr. Blight, Mr. Harrison and the writer. We went through the usual forms and formalities of such occasions. Mr. James C. Cornell was called to the chair, some exhibition of eloquence was made, resolutions passed, and adjournment moved, with an understanding that we were to meet again. So little feeling for the object was shown by our Society, that the delegates from Bucks came no more. The meeting and its purpose was published, however; the Germantown Telegraph taking the lead, and blowing a brazen note of triumph on the glorious occasion. Not liking this apathy, the writer communicated with gentlemen in the interior as to whether a State Society should be attempted, or one confined to the counties nearer Philadelphia. The Hon. Frederick Watts met the matter with that liberality which will ever make the people of his native State his debtors, and record his name with merited honor in her annals. The idea of an address and a convention came into the writer's hearing, and both of these were ably and successfully carried out by members of the Society. In this way was produced an institution, that, so far, has been of the utmost value to the agricultural interests of the State. E.

Philadelphia, May, 1854.

For the Farm Journal.
WHEAT, CHEAT, &c.

MR. EDITOR:—I feel much gratified in the perusal of the Farm Journal, and you have my cordial wishes for abundant success. It is doubtless destined like Aaron's rod to swallow up all the small fry from New York, that seek subsistence from the more genial soil of the Keystone State.

In consequence of continued cold weather with late snow, vegetation has been kept back through this region until we have a late spring, which seems to favor the prospects of a full crop of fruit. Our trees are now loaded with blossoms, and never did the fields of wheat along the branches of the Susquehanna present a more favorable appearance.

Having noticed in various agricultural papers a discussion of the probability of wheat turning to cheat, and feeling some desire to arrive at a correct conclusion in the matter, I submit the following statement:—While residing in Pickaway county, Ohio, in 1840, I saw a ten acre field in which grew an excellent crop of wheat the preceding year, which having been left stand till being quite ripe shelled during the process of harvesting sufficient to seed the ground for another crop; and in consequence of moist weather it vegetated and grew, pre-

sending a regular and favorable appearance for another crop without the labor and expense of seeding, and it actually turned out to be a full and good one. This induced Mr. Dresbach, the owner of the land, to try it unplowed another year, by which experiment to know whether the third crop could be harvested without plowing. The appearances all seemed favorable until the latter part of May, when we looked for the heads and the grain to be formed, when lo! the entire field was turned to cheat—scarcely a head of wheat to be found in it.

This statement can be corroborated by numerous persons still living at the place, and it shows conclusively that there is an affinity between wheat and cheat. The invariable laws of nature teach us that "like usually produces like," but there are freaks of nature, and it is not more contrary to the principles of philosophy, nor to the agency of divine providence, to find an entire field of wheat turning to cheat than for a single stock: and not more of a freak of nature for a stalk of wheat to turn to cheat than for a child to be born with the head of a horse, or a calf with two heads—instances of which may have been seen in the Philadelphia Hospital and Museum. Owing to some disturbing cause and extraneous influence animal malformations occur, and to similar causes we may trace the fact the husbandman gathers tares instead of wheat. Yours truly,

HENRY MILLER.

Turbutville, Northumberland co., May, 1854.

For the Farm Journal.

CHESTER COUNTY HOGS.

MR. EDITOR:—In the last number of your Journal a Jersey correspondent gives an account of a lot of hogs recently killed in that State, which certainly does credit to the "land of sweet potatoes and water melons" in the matter of growing good swine. But Jersey will have to "try again" if she expects to catch up to Chester county in this respect. Without intending it as a matter of boasting, however, in this instance, I will give you a sample of what we can do in these parts with our Chester county breed of hogs.

About this time last year I bought a set of a public vendue in the neighborhood, which pleased me during the summer a litter of nine pigs. The sow was a very fine one, and took a premium at the Agricultural Exhibition last September. On the 1st of February she was slaughtered and weighed 617 lbs. Her nine pigs were killed at six months old and averaged 212 lbs., thus making an aggregate of 2525 lbs. of pork!

What does our friend at Hazledell Farm think of that? Can Jersey beat it? H. J.

West Chester, April 5, 1854.

For the Farm Journal.

CONDUCTORS.

MR. EDITOR:—I have noticed, a few months ago, the destruction of two barns by fire, neither of which had been furnished with that safe and cheap remedy against the power of the forked lightning—a conductor. Although many farmers have been annually warned of their danger—for in what year has not some barn or other building been destroyed in Chester or Delaware county?

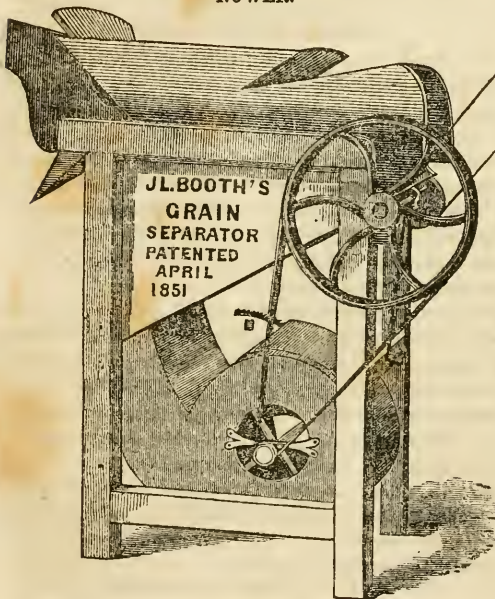
A large number are still indulging in fancied security, and leave their property exposed, when a few dollars invested in conductors would furnish a guarantee of safety better than that of an insurance office.

These buildings will in a short time contain the products of the present year to which hundreds look as a reward for their toils; forgetting that there is an element more to be dreaded than the Hessian fly or mildew, and which may in a few moments reduce their all to ashes. This subject is certainly worthy of attention, and cannot be too strongly urged on those who have hitherto neglected it. Some, it appears to me, are so regardless of their own interests, that nothing but bitter experience can teach them to guard against these accidents which are of such frequent occurrence, and they regret, when it is too late, their want of foresight in not providing against an evil it was in their power to avoid.

Two wagons, one carriage, probably from twenty to thirty tons of hay, a large quantity of straw, three head of cattle, one horse, and a number of farming utensils, were destroyed in the two barns above mentioned, and no one will for a moment suppose that either the barns or their contents would have been injured had conductors been properly affixed to them. Poor Richard says, "a stitch in time saves nine," and one dollar well applied in such a case may save a few hundred. J. S. G.

Media, May 4, 1854.

BOOTH'S PATENT GRAIN SEPARATOR AND WINNOWER.



For Millers.

These cuts give a pretty correct idea of the appearance of Booth's Patent Grain Separator and Winnower, which have been fully tested for a couple of years, and gained much favor with the farmer. They have been awarded a silver medal at the Franklin Institute, Philadelphia, in 1853, also at the Fair of the New York State Agricultural Society, and numerous diplomas and premiums at county fairs. Over a hundred of them are in

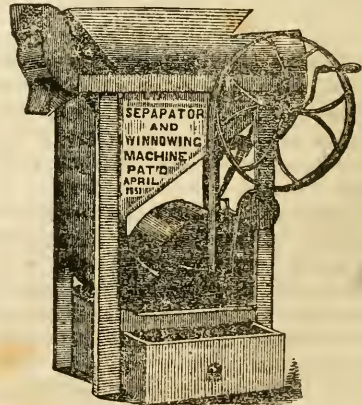
operation in the State of New York, and a number in Philadelphia county. They not only operate with great speed and efficiency for all ordinary uses of other fans, but also separate completely chaff, cockle, smut, white heads and other impurities, and also grass seeds and garden seeds. We have seen a lot of very fair clover seed put through it, and were surprised at the quantity of refuse stuff which was separated.

The sieves, five in number, have not the shake sideways, as is customary, but are jogged in front by a cam on the shaft of the driving wheel. The draft of air is made from below through an air tight trunk, and can be increased or diminished with the greatest facility.

The cleaned seed or grain falls into a receiver at the bottom, which can be graduated to be used as a measurer. We annex one of the many recommendations which might be given, and add that the machine may be obtained of Paschall Morris and Co., corner of 7th and Market streets, or David Landreth, 23 South Sixth st., who are agents in Philadelphia:

Messrs. SLAUSON & DAVID:—I had the present season a lot of wheat of good quality, but so dirty with smut that the miller to whom I took a sample (which had been run twice through one of Grant's Fans) declined taking it on any terms. I then obtained the use of "J. L. Booth's Grain Separator and Winnower," for a short time. Between the hours of 10½ A. M. and 6 P. M., we ran twice through this machine 140 bushels of grain, from which the chaff had been first cleaned by running once through Bamborough's Fan. (Seven bushels of smut were taken out the first time through.) By this means were obtained eight bushels of smut, light grains, &c., and 132 bushels of clear wheat; for which the miller above referred to now paid the highest market price. From the time spent in cleaning this grain, I should estimate the average speed of the machine in question at sixty bushels per hour. SAML. MORRIS.

Oxford tp., Phil. co., 10th mo., 1853.



For Farmers.

Young Animals.

Young animals should be kept growing until they reach maturity. If they are suffered to get poor and stop growing, they will retrograde and never attain a full size; and without grain, or something better than hay, it is next to impossible to keep them in that condition, especially the first winter.

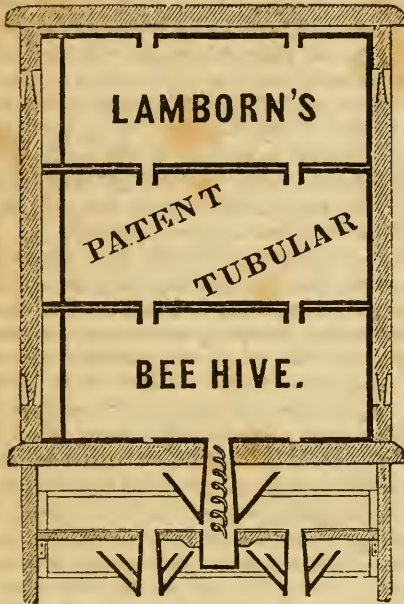
For the Farm Journal.

Rancid Butter.

MR. EDITOR—Sir:—As I believe in the old adage that to prevent is better than to cure, I subjoin a mode of preserving butter free from rancidity for a great length of time:—Take two parts of good dry salt, one part of good sugar, and one of nitre, and mix them. To every pound of good fresh butter add one ounce of the above mixture; work it well together, and press it into jars for use. It should be kept three weeks before used; if it be sooner opened the salts will not be sufficiently blended with it.

J. S. G

Media, May, 1854.

**LAMBORN'S TUBULAR BEE HIVE.**

FRIEND DARLINGTON:—I enclose a plan and description of my Patent Tubular Hive, which I would be pleased to see recorded in your valuable Journal, if you think it will interest any of your readers, and not crowd out more important matter. I am well aware that pamphlets and books without number have been written upon the history and propagation of the bee, but the work I shall recommend is the one I have studied myself, and from which I have copied my designs—I mean the great book of nature. To understand the nature and wants of the honey bee, you should follow them to their wild abode, study their habits in their natural state, and conform your *management* as near thereto as your convenience will admit of. This is what I claim for my hive. It is constructed on natural principles, and like the *native home* of the bee, it will ever be found free from the ravaging moths that so often fill those useless and fantastical contrivances—the majority of all “Modern Improved Bee Hives.” The old political maxim, “united we stand, divided we fall,” will hold good in bee hives as well as in other things.

Mine is a suspension hive, and constructed so as to

arrest all depredatory insects and vermin which so commonly intrude upon and annoy these industrious little communities in the commonly constructed hives.

In the present construction, the bee enters the hive through an inverted truncated cone, and the cone being filled with any kind of fluid is sure to arrest the ant or any of the various insects, that often commit destructive incursions on the hives now in general use.

In the main entrance tube to the body of the hive is fixed a spiral wire, which facilitates the passing in and out of the bees, and on cool mornings and evenings enables them to suspend in solid column, which insures to them a natural heat whilst on guard. The body of the hive is so arranged that the aparian can remove any part or parts of the hive at pleasure, without destroying a single bee or leaving the combs in a mutilated or torn condition.

All creatures having more or less care for the security of their young, the bee during this period selects the heart or middle boxes of the hive. The aparian on this occasion by strict attention may remove these boxes at the proper season, and avoid the hitherto troublesome task of hiving them in the old way.

The Patent Tubular Hive has numerous decided advantages as regards the security and protection of the bee in propagation and operation, over any ever before offered to the public.

From a hive thus constructed I have taken 150 lbs. of honey in five weeks from the first entrance of the bees therein, and have sold in a single season from one hive 80 lbs. of honey. I have no doubt that ten hives of bees, if properly managed, will nett one hundred dollars per year.

ISRAEL LAMBORN.

Willow Grove Farm, near Marshalton, Chester co.

P. S.—One of my hives can be seen at the Agricultural Warehouse of Paschall Morris & Co., West Chester.

CHIMNIES AND VENTILATION.

MR. DARLINGTON:—As this is the season for building, I send you some practical suggestions in relation to chimnies and ventilation, trusting the information they contain may be of service to some of your numerous readers.

Masons and bricklayers usually construct chimnies at random; if they “draw,” well, if not the unlucky tenant must abstain from making a fire upon the hearth, or bear the next evil in domestic matters to a scolding wife, to wit, a smoky house. If a mason be asked why a certain chimney “draws” and another does not, he will, in nine cases out of ten, tell you “it will happen so sometimes”, while in most cases neither “draw” as well as they should. There are certain principles necessary to be observed in building chimnies, which, if disregarded, are as fatal to their draft, as a disregard to the plumb, is to a wall, standing.

First:—The height of the fire place should not much, if any, exceed double its depth at the hearth. Second: The “break” or “throat” should be about two-thirds the depth of fire place at the hearth above the arch, and should be exactly the same size at the top as the intended chimney. Third:—The chimney should not be larger than necessary to carry off the smoke from the fire place, and must be of uniform size throughout. Fourth:—The

chimney should be raised above the houses near by, which otherwise, when the wind blew from them towards it, might occasion an eddie, or "blow down the chimney." To illustrate my meaning more fully I will give the following example:—Suppose a mason was required to build a chimney, the fire place of which was to be two feet and a half high and as many long, he would divide the height (2 ft. 6 in.) by two for the depth (1 ft. 3 in.) for the projection of the jambs. When he got to the height for the arch and having ascertained the size desired for the chimney, say ten inches on each side, which gives an area of one hundred square inches, he commences to "draw in" or narrow, so that the throat, ten inches (two-thirds the depth of the fire place) above the arch, shall contain exactly one hundred inches. Its form will be oblong, that is, it will be about twenty inches long and five wide. This he will gradually bring to a square of ten inches, but preserving the exact capacity, and so carry up the chimney.

A chimney thus built is the best ventilator possible for a house. The chamber or room into which it opens will always be free from foul air. A sleeping apartment with such a chimney will not send forth its occupant of the night lank and lethargic, consequent upon breathing over and over again the carbonic exhalations from the lungs, stagnated in the lower strata of the atmosphere, but fresh and buoyant from a night's repose sweetened by inhaling pure air only.

The practice of ventilating sleeping apartments by ventilators near the ceiling is becoming common in defiance of all experience and common sense. The principle impurity in them is carbonic acid, given off by the lungs in breathing. This gas is slightly heavier than the atmosphere, and naturally sinks to the lowest strata. Chimnies of *good draft* will carry it off, but it never rises of its own accord. Consequently a flue at the ceiling carries off the upper strata of air, leaving the foul atmosphere below if there be no chimney with a strong draft.

Attention to this matter will save many a doctor's bill, and promote health and happiness.

For the Farm Journal.
Plagiarism, &c.

MR. EDITOR:—Having lately become a subscriber to your valuable Journal, I have been much interested and instructed by many of the articles I find therein,—the experience of practical farmers being a prominent and judicious feature in the work—and much good sound sense and useful information may be found in the remarks of many of your correspondents, whose experience and observation have qualified them to speak understandingly of the subjects they treat on in their communications.

But one of your correspondents—a frequent one, by-the-by—it seems is ambitious of earning a high reputation, not only for agricultural, but literary and scientific attainments. Looking over the April number a short time since, I was struck by seeing an article, over the signature of J. S. G. (of Media), which seemed rather above the level of that gentleman's usual sentiments and style of composition, and on further perusal I found that I was perfectly familiar with the article in question; Mr. J. S. G. having copied the whole, verbatim et literatim,

from the writings of Buckminster, with the exception of a few amendations of his own—how much he has improved (?) the elegant simplicity of the style of that admired author, I leave your readers to judge: as they can easily do by comparing his with the original, which is to be found in an extracted form in some of our school books—Emerson's First Class Reader for one, I think; the heading being "Rural Occupations favorable to Devotion."

Also, if Mr. J. S. G. admires that author as much as I do, he may find the piece in question, as well as several "more of the same sort" by the same, in the "Common Place Book of Prose;" from whence he may transfer some more, if he chooses, into the "Farm Journal" in full, only next time let him have the candor to acknowledge where he gets them, as when people see an article in a Journal over any person's signature, they are apt to think that he claimed to be the author of it, especially if he mentions no other and puts no quotation marks about it. As for myself I may be singular in my tastes, but I prefer the original authorities to any of J. S. G.'s abridgements or alterations; whether the subject be scientific, like his essay concerning *those ants that keep dairies*, or literally as the one before mentioned.

Another article that particularly drew my attention was one in the last May number, headed "To Compute Interest," as I expected to find some new and shorter method for doing it, whereas the one given by your correspondent is to be found in all our arithmetics, (late ones at least—perhaps not in Pike's which G. W. P. may have studied in his "school boy days,") and I am much mistaken if it is not *the* method used by bank officers and business men generally to calculate interest for any small number of days. I am surprised that any one who has done so much public business as G. W. P. has, (I take it,) should have learned the method in question so lately and from a Baltimore paper—however, he is in error when he says it is correct—it is not at all *perfectly* so, though it will answer for small amounts with sufficient accuracy. It is founded on the assumption that 30 days make a month, and consequently 360 a year. Now let us test its accuracy, say to find the interest of \$1000 for 73 days at six per cent. The interest of that sum for one year or 365 days would obviously be \$60, and as 73 days is one-fifth of that time, the true interest will be one-fifth of \$60, or \$12. Now by his rule—divide the number of days by 6; 73 days divided by 6 gives 12 $\frac{1}{6}$, which being multiplied by \$1000 gives 12166 $\frac{2}{3}$ mills, or \$12 16 $\frac{2}{3}$, being an excess of 16 $\frac{2}{3}$ cents over the true interest. Though G. W. P. kindly inserted the "method" for the benefit I suppose of some of our farmers, who are "slow" at calculating interest, I think that if any of them were to ask their sons at the public school—leaving out those at the "Academy"—for a "way" to compute it they would get the said rule for an answer—or a *better* one.

Truly yours,

B. W. W.

Unionville, May 13th, 1854.

For the Farm Journal.
Lie on Chickens.

MR. EDITOR:—Can you, or any of the readers of the Journal, inform a subscriber how lice on chickens can be destroyed. Sometimes they become so numerous as to kill full grown chickens, and the walls of the house in

which they roost are often covered with them. They are of quite a diminutive size, scarcely perceptible to the naked eye.

I observe there is hardly any thing in the Journal about bees. Now if some individual, experienced in the art of bee keeping, would occasionally occupy a column or two, would he not add to the value of the Journal? I think he would. P. G.

Monroe county, Pa., May, 1854.

For the Farm Journal.

Guenon's System, James Gowen and Agricultural Society.

MR. EDITOR:—It is not that I am emulous to have the last word in the *tete-a-tete*, or rather the head and tail controversy with your correspondent "Science," that I again trouble you, but that I am unwilling that Guenon's foolish system should acquire any degree of credit, in Pennsylvania at least, through the ignorance imputed to me by your correspondent; for if, as alledged, I be ignorant as to the principles and history of Guenon's discovery, it would follow that my objecting to the system should go for nothing. But I submit whether this mode of upholding the system is strictly fair, for from my former articles on the subject, it is presumable that you and your readers must be convinced that I knew what I was writing about.

It will be recollected that I intimated to "Science," that in proof of his "facts, undisputed history, and of learned societies in France having subjected the system to the severest tests," he should have designated those societies, and given the places where the savans experimented; instead, however, of enlightening me upon these matters, he uncharitably leaves me to my ignorance, and felicitates himself upon having been right from the beginning in thinking that I was not properly versed in the sublime mysteries of Guenonism; and, because I hinted at the propriety of such proofs, it seemed to my amiable friend "Science" that I was not posted up in his facts, which caused him to exclaim:—"This (my ignorance I suppose) is indeed astonishing, and seems to prove what I before thought, that Mr. Gowen has not even read Guenon's book, to say nothing about making himself master of the system." He further adds, "I have never yet seen an edition of Guenon which does not contain the very certificates and endorsements of the *learned societies* I alluded to, with localities, mode of examination, award of premiums to Guenon for his discovery and all about it."

By way of excuse for my apparent dullness, permit me to refer to Nefflin's edition of Guenon, the Simon Pare, Orthodox, Coke upon Littleton Treatise, published in Philadelphia, 1853, to which is prefixed the "*perfectly regular*" report of a committee of the Philadelphia Society for Promoting Agriculture, certifying the infallibility of Guenon's system. Now in this edition, under seal as it were of the Philadelphia Agricultural Society, there are no certificates or endorsements of learned societies or *undisputed history*, except it be the history of John Nefflin's agricultural qualifications, which I do not mean to dispute, and yet my friend "Science" says he never saw an edition of Guenon which did not contain the endorsements of learned societies of France, with other testimonials in favor of Guenon. How can the discrepancy between us be reconciled? In no other way I imagine than by supposing there has been a second edition, with *additions*, of Nefflin's translation published, and that I being behind the times have not read this second edition with additions, while my progressive friend "Science" has it all at his finger ends. If this be so, his holding on to the last, and I to the first edition, may be taken as a curious coincidence of our relative positions in another aspect of the

case, for while I take hold of the bull by the horns, he clutches the animal by the tail—which is the more perilous position it would not be difficult to say, nevertheless it is more to my taste to run the risk of a *toss*, than a *kick* with other unmentionable accompaniments.

As it is important to establish my knowledge in *mirrorism* on a basis as solid as the foundation on which "Science" predicates his high opinion of my erudition in other respects, I presume to tell him that I am not so deficient in Guenon lore as he supposes me to be, for I have studied Consul Trist's translation of Guenon, and examined with some care the certificates made by the committees of the societies of Bourdeaux and Aurillac, and if these committees represent the "learned societies of France" alluded to, I can perceive nothing in them to respect beyond the pretensions of the Philadelphia Society's Committee, other than that of Bourdeaux having a horse doctor, yeleft a veterinary surgeon, for chairman, and the Aurillac committee a nobleman of the *Count* grade at its head; two points of difference which, if the Philadelphia Society had been hard pressed, could easily have been reconciled and matched, for as the immortal Sam Patch said, "some things can be done as well as others." Considering then the extent of my reading, and the profoundness of my research in the mysteries of Guenon, and which might entitle me to a professorship in tailology, I may ask was it reasonable in "Science" to deny to me a fair measure of experience in escutcheons and mirrors, so as to weaken the force of all the good things I have said or sung against the discovery? Moreover, after all, the escutcheons are not so incomprehensible, but that any one might master them, maugre their susceptibility of being taken for either a mountain or a mole hill, agreeably to the fancy or desire of the explorer. The simplest cow boy might in a week comprehend them so as to demonstrate the "orders and classes" of mirrorism as clearly as the most astute savan of France, or even "Science" himself, could or can explain them, but it would be a shocking waste of time in the boy to employ himself upon a matter so utterly nonsensical and useless; as well might he spend his time in counting the hairs on the *end* of the cow's tail, or noting the curves of hairs on her *shoulders* and *flanks*, as in tracing the "hairs that turn upwards and downwards" *under the tail* in the region of the escutcheons, by way of eliciting information as to the milking properties of the animal—the one pursuit would be about as rational and sane as the other.

A word as to the attempt made to show that I misstated the proceedings of the Philadelphia Society for Promoting Agriculture in the matter of Guenon's discovery. Had it not been for the great regard I had, and ever have cherished for the practical character and soundness of the Society's opinions and views relating to the theory and practice of agriculture, I should not have entered upon a discussion with "Science" on the merits of mirrorism. It pained me to see the society's unqualified endorsement of such a whim as Guenon's system, placed so prominently before the public as a prefix or passport to the pictures and stuff contained in Nefflin's pamphlet on Guenon. Holding, as it is well known I did, so low an opinion of the system, I felt constrained to weaken the force of the committee, by way of absolving the society, to some extent, from the responsible position it had been made to assume upon a matter so very questionable; in furtherance of which, in all sincerity, and according to my recollection of the proceedings, I stated that I refused to appoint the committee, and instanced irregularities touching the action of the committee. In your last number, under the caption, "Extracts from the proceedings of the Philadelphia Society for Promoting Agriculture," is a lengthy detail of sayings and doings by individual members at the stated

meeting of last month, the purport and object of which seemed to be, to affirm the regularity of the action of the society and committee in the Guenon affair, and to discredit what I said in regard to them. So far as I am concerned, this unique proceeding affects me less, personally, than as a member of the old society, for, as a member, it moves me to witness the pains taken to make it minister to the promulgating of such doctrines as are set forth in the Guenon discovery, and to confirm the society's faith in the silly and absurd tests of "escutcheons and mirrors," as is declared and embodied in the report of the committee, affirmed to be *perfectly regular* in every respect by a resolution *unanimously* carried, as appears by the extracts referred to. Thus then, "The Philadelphia Society for Promoting Agriculture" stands gravely, deliberately and officially, in the eyes of every intelligent agriculturist at home and abroad, sponsor and endorser of Guenon's system, and, as such, will be held accountable for whatever evil the false tests or standards may exert upon the interests of agriculture—to this complexion has the society come. No blame can attach to me, be the consequences what they may, for I did every thing in my power to prevent the society assuming such an attitude.

The exception taken to my statement of the proceedings is, that the report was read, while I stated "without the report having been read, the committee had authority to give such direction to the report as it thought proper;" this is the point in dispute, for it is conceded that I refused to appoint a committee. The minute relating to this point in the proceedings of the meeting of the first of January, when an election for officers took place, reads, "that the committee (on Guenon) *made (not read)* a report through their chairman, Dr. A. L. Elwyn, &c., &c. Now on fair presumption, considering the strong and decided endorsement of Guenon's tests, as appears in the report published, with its obvious informality, of being signed by individuals not on the committee, and by less than a majority of the committee proper, is it probable that with all these awakening circumstances on its face, that, if read, there was no member present to protest against such a report being either approved or published? A report of a committee may be made verbally, or may be made referring to a written report under preparation, or in hand, and in such manner, to the best of my recollection, and I have an excellent memory, was the report in question made. There is one circumstance alone, connected with the report, which at present I do not choose to mention, that had the report been read could not have failed to have elicited my strenuous opposition to its being approved or published. I need hardly repeat that I did not appoint the committee, while it may be proper to give the following extracts from the minutes of the December meeting, 1852, thus: "Dr. A. L. Elwyn proposed that a committee be appointed for the purpose of making inquiry into the principles contained in Guenon's work on milch cows, and on motion the following gentlemen were appointed (by the meeting), viz: Dr. A. L. Elwyn, Samuel C. Ford, Isaac W. Roberts, Samuel Cooper, Casper W. Sharpless, Samuel Williams, Dr. J. A. McCrea and Isaac Newton," eight in all. The manner of appointing this committee was irregular, so far as usage goes, for the President invariably appoints, but as I refused to appoint, the meeting was competent to perform that act. It may be asked, can a report, published as the act of a society, be valid or regular without being attested by the secretary? There is no such attestation to the report published. But this is a trifling irregularity compared to the fact that a majority of the committee, the eight appointed, did not sign the report, while the report exhibits a majority by two extraneous names being added to it, without the color of au-

thority for such a proceeding. Under those circumstances, does not the resolution passed at the last meeting of the society, affirming that the proceedings in the matter of the Guenon committee were "perfectly regular," prove too much.

The only satisfaction, Mr. Editor, that this review of the matter affords to me is, that you and your readers will perceive that I refused to appoint the committee, as before stated, and that so many of the committee appointed by the meeting, among whom are some of the most intelligent members and best judges of cattle in the country, kept their hands clean of giving currency to Guenon's discovery, all of which tend to show that the society's endorsement is not of such potency in establishing the doctrine of mirrorism, as the disciples of Guenon would fain represent it to be.

Respectfully yours, JAMES GOWEN.

Mount Airy, May 9th, 1854.

For the Farm Journal.

MANURE.

The subject of manure is certainly one of unlimited importance to every farmer. It is admitted at least by common consent to be the foundation of agricultural prosperity. Its acknowledged importance in successful farming is so great that the most untiring investigations of science are directed to it. Our cities and villages increase so rapidly in population, and draw so constantly from the soil its most precious constituents of human food and clothing, that unless we are on the alert in adopting the principle of restoring to the soil as much potash, phosphorus, sulphur, chlorine and ammonia as we take from it, at no distant day it must of necessity become too sterile for profitable cultivation. Now, instead of impoverishing the earth, a sound public policy demands that we should rather increase its natural fruitfulness in order to meet the increasing wants of an ever augmenting population. How to achieve this result in the most economical manner should be the study of every agriculturist.

The best way to impart the high degree of fertility to any given area of earth is a problem often very difficult of solution. In many cases a little gypsum scattered broadcast over a clover field operates like magic; in others this fertilizer produces no effect whatever. The same is true of lime, salt and potash, but compound fertilizers, as guano and stable manure, seldom, if ever, fail to improve the productiveness of land for one or more crops.

The reason of this difference is obvious, while lime adds to the soil only one element, the excrements of animals applied to it contain not only lime, but some twelve or more other ingredients, equally necessary to the cultivation of plants, which shows its great value as a fertilizer. Now, unless a part of anything is equal to the whole, the excrements of animals, or of human species, must ever be more reliable to increase the earth's productiveness than any one, two or three simple elementary bodies, consumed in the formation of the crops.

Although much has been written on agricultural chemistry by venerated names both in Europe and America, still it is clear that one of the best general fertilizers—one on which every farmer may with the most unwavering safety depend—is barnyard manure. There lies his pearl of great price—there his mine of wealth.

Experience teaches us that the farmer who uses proper efforts to accumulate it, discretion in preserving it, and withal proper economy and judgment in its application, is on the highway to wealth and prosperity, and may soon enjoy the appellation of the *nobility* of America—nobility constituted by their skill with the plow, and their success in making bread for the million. It then becomes a matter of

no small interest to inquire what are some of the means adapted to accumulate and preserve manure.

In all cases where it can be conveniently done, domestic animals should be fed in a stable, in order to protect them from the sun and rains in summer, and the cold and storms of winter. In this way the droppings of the stock is not exposed to the weather, as rain and sunshine are admirably calculated to extract the fertilizing qualities of manure. There should also be a good yard connected with the stables, furnished with a good roof, in which the cattle may run when not stabled. When the manure is removed, the yard should be covered to the depth of six inches or more with swamp muck, leaves from the forest, sawdust, turf, straw, or any other suitable substance to absorb and retain the liquid. By being mixed with the droppings of the cattle, any of these substances will become as good as common barnyard manure. The manure from the stables should be thrown into the yard in heaps, composting it with muck, leached ashes, or if the soil is deficient in alkali, which our old soils generally are, better unleached ashes, adding plaster to fix the ammonia, salt, soap suds from the wash house, and chamber ley from every quarter.

Lime should never be used in compost with animal manure, as it sets free the ammonia which is the life of the manures. The farmer's hogs should be kept at making manure; keep their yard well supplied with straw, leaves from the forest, and by all means the weeds that grow in such profusion about the yards, and they will convert the whole into good manure, and grow fat in the meantime. But the only effectual method of preserving it from waste is to keep it under cover, as it is estimated that it will lose at least one-third in value by being subject to the weather, and where it has great facilities for natural drainage much more.

The farmer should be as thoughtful of sheltering his manure as his domestic animals. The privy should be constructed with a portable box under the seat with handles, so that it could be removed as often as occasion might require, and emptied on the manure heap. This box should often receive a liberal supply of charcoal and plaster. All the weeds and refuse productions on the farm of this kind should be collected while green, and piled in the barnyard for manure. It is estimated that a ton of dry plants will yield five hundred of dry mould. Hence five hundred of this mould will suffice to grow at least a ton of cultivated plants. Thus the economical farmer may constantly crop his field, and yet constantly enrich it with the refuse and waste matter of its own productiveness. **JESSE GORSUCH.**

Huntingdon, Pa., April 18th, 1854.

For the Farm Journal.

THE PROGRESSIVE FARMER.

MR. EDITOR:—I have a little volume of some 250 pages, called the "Progressive Farmer," by Professor Nash, and from the press of that indefatigable publisher, C. M. SAXTON, New York, and which, by the way, I was induced to purchase from a favorable notice of it in the Farm Journal some few months since. I keep this little book lying on the table in my sitting room, so that I can pick it up for a few minutes of an evening, or other leisure times, and though I have read it through at least half a dozen times, yet I seldom open it without being more and more interested in its contents, or gathering some new ideas upon the wide range of subjects connected with agriculture. It contains more real practical knowledge upon every important department of the farm, than any publication of the same size I have ever met with. I have what I consider a very respectable agricultural library, embracing such voluminous works as "Stephen's Book of the Farm," "Colman's Agriculture,"

&c. &c., and yet I would not exchange the "Progressive Farmer" for any two works in my possession.

I don't know, Mr. Editor, that I can do the numerous readers of the Farm Journal a greater favor than to send you an occasional selection from this work. Those who are in the reach of bookstores, or agricultural warehouses, where such publications are kept for sale, I would advise to buy it at once. They cannot invest half a dollar more advantageously in the book line I am confident.

I will select, on the present occasion, Prof. Nash's views upon *deep plowing*. There is some diversity of opinion upon this point even among our good farmers, and should there be among your readers any who believe that "shallow plowing is the best for a corn crop,"—which may be considered the doctrine of the "old fogies" in agriculture—I would be glad if they will read the following remarks, and report in the next number of the Farm Journal, wherein the views of Prof. Nash are contrary to reason and common sense. I remain yours, A PROGRESSIVE.

DEEP PLOWING.

From what was said on the subject of capillary attraction, we derive important rules with regard to plowing. The upward and downward movement of the water extends far into the ground, if there is no impervious stratum. If there is a stratum near the surface through which water cannot pass freely, an important process of nature favorable to vegetation is impeded. The water of excessive rains should pass off without obstruction into the earth, and the upward flow of water, after evaporation, should be unimpeded, in order to supply the surface soil after a drouth. All who have tried deep plowing have become satisfied that their fields are dryer for it in rainy weather, and moister in dry weather. This accords perfectly with the principles now explained. There may be soils lying on so porous a subsoil that it would be well to cultivate shallow. The farmer must look to this. In extreme cases, he may find a subsoil so open and porous that to stir it might be like knocking the bottom out, to let his top-soil fall into the earth and be lost among coarse pebbles.

Whenever the soil is deep and the subsoil compact, there can be no doubt that deep plowing is greatly beneficial. If plants can have ten inches of loosened soil into which to thrust their roots for food, they are like a herd of cattle in a pasture of ten acres; while if they have but five, they are like the same herd confined to a five acre lot.

On all ordinary soils, plowing should be at least ten inches deep; and then, if the soil below that depth appears hard and compact, especially if there is anything like a shell or crust, through which water cannot pass freely, it should be stirred with the subsoil plow as much deeper. The water can then pass up and down freely. All danger from excessive rains is removed, because the water readily passes away from the roots of plants; and all danger from drouth is removed, or nearly all, because the water will freely pass upward by capillary attraction; and it should be remembered that every particle of water which rises towards the surface, comes loaded with salts, which it brings from deep in the earth and deposits within reach of the roots of plants. Water so rising is never pure. If it enters the roots of plants, it carries salts along with it. If it evaporates, it leaves its salts behind, having brought them up no doubt in many cases from deeper in the ground than roots penetrate.

Thus we see that water acts not only as the drink of plants, which they take in principally by their roots, but also as the carrier of food for them. It washes the air of all those impurities which would render it unfit to breathe.

Falling as rain, it brings to the roots of plants, as food, whatever impurities the air contains; and then, after sinking deep in the earth, it is drawn back by capillary attraction, bringing with it such salts as it may have found and dissolved by the way.

The free passage of the air through the soil is almost as important as that of water. These considerations are worthy of the attentive study of the practical farmer. They teach him how to prepare his lands for crops. There must be in the soil that which the plant requires; and not only so, but it must be brought within the reach of the plant. Water and air are the plant's travelling agents. They must have free course; and to this end, the soil must be deeply mellowed. It would not be extravagant to say, that after having manured your soil the best you can, you have not put within the reach of plant-roots all that they require; that still food is to be brought to them all the way from far above the surface of the field to far below it, and that water and air are the carriers.

There is hardly a more important principle in agriculture than the one I have now endeavored to illustrate—that of deeply plowing and finely pulverizing the soil. A caution is, however, here necessary. Suppose a field has hitherto been skimmed over to a depth of only five inches. Just at the termination of these five inches is what be denominated the plow-floor—that stratum of earth on which the plow has always run, about as hard as a cart-path. Above this is a thin and exhausted soil. All below is hard, impenetrable by the roots of plants, and almost impervious to water.

If now the plow be put down to twice the depth before reached, and the whole ten inches inverted, it is manifest that the surface will be made up of soil that never saw the light before; and that the original top-soil will be buried at too great a depth. It would seem to be a safer course to lower the furrow one inch a year till the requisite depth were reached. In this case, the change would be less violent; the upper and lower soils would be perfectly mixed, and the whole would be thoroughly pulverized.

Nothing is better established than the benefit of mixing unlike soils; as peaty with sandy or with clayey soils; or swamp muck with any soil essentially unlike it. Now, wherever the soil is different from the surface, this gradual deepening of the furrow enables us to mix soils without the labor of transportation. The farmer should carefully mark the effect. If good, he should continue the practice. If bad, he should investigate the cause. It might be owing to protoxide of iron in the subsoil. Should the subsoil be of a sickly yellow, when first turned up, but afterwards turn to a reddish brown, he might conclude that such is the case; and he might then add to the soil a little lime, or a compost containing it, and continue the process of deepening his soil; or should he deepen his furrows very gradually, this protoxide of iron would cease to be hurtful, merely by exposure to the air.

A deeply cultivated soil—one properly amended, if not originally good and well manured, is a laboratory in operation—at work for the owner's benefit. By means of the silica and alumina, its chief ingredients, it affords a safe anchorage for his plants; its salts and organic matter supply them food; and more than this, it is at work, drawing other food from above and below. The subsoil sends up its treasures, and the playful breezes pay it their contributions as they pass.

Such a soil, one perfected by diligence and skill, is in alliance with the silent and often unobserved but mighty powers of nature, for the farmer's good. It gathers from above and below for his benefit. It subsidizes the powers of nature in his behalf. It is thus that the God of nature rewards

diligence and skill; thus that He verifies his own truth, that 'the hand of the diligent maketh rich.'

For the Farm Journal.

PENNSYLVANIA FARM SCHOOL.

MR. EDITOR:—Under this caption in the last number of the Farm Journal, you give "extracts" as from the minutes of the Philadelphia Society for Promoting Agriculture, in reference to the initial of the Pennsylvania State Agricultural Society, and its bearing upon the Farmers' High School; and, as a "matter of history," accredit the paternity of those institutions to certain individuals, or rather, the extracts confer that honor, almost exclusively, on one of them. But I must be allowed to say that these extracts are, in spirit and letter, neither just nor generous, leading as they do to inferences not in accordance with facts, and therefore should not be received as "matter of history." If credit should be given to those who first recommended or originated the idea of a State Agricultural Society, "the motion of Dr. Elwyn in 1845," was not, as the extracts would imply, the first movement in this regard by half a century in point of time; for, in 1794, the Philadelphia Society appointed specially a committee "to prepare outlines of a plan for establishing a State Society, for the promotion of agriculture, connecting with it the education of youth in the knowledge of that most important art, while they are acquiring other useful knowledge suitable for the agricultural citizens of the State. And a petition to the Legislature with a view to obtain an act of incorporation." This committee at a special meeting of the Society, Jan. 28th, 1794, makes report, and presents a petition to the Legislature for an act of incorporation, together with outlines of a plan for establishing a State Society for the promotion of agriculture. The petition reads: "That finding the important object of their association not to be sufficiently attained on the limited plan, and by the means hitherto pursued, they are desirous of promoting an establishment on a broad and permanent basis, which may afford more certain prospects of advancing the interests of agriculture. They also conceive that the acquiring knowledge of it may be combined with the education which is practicable and most useful for the great body of citizens, &c., &c." "Signed by order and on behalf of the Society." John B. Bordley, George Clymer, Timothy Pickering, Richard Peters. "The outlines of a plan" to carry this institution into effect are admirable, but too lengthy to be copied here; they can be found in the first volume of the Society's Transactions—so much for the priority of action in behalf of a State Society connected with agricultural education. It seems to me hardly possible that any one having the least regard for the truth of history in this matter, could have attempted, through the columns of the Farm Journal, to deprive the old Society and the patriotic men that managed its concerns some sixty years ago, of the credit of originating a State Agricultural Society, in connection with agricultural education. I am sure whoever was so blind or foolish as to furnish the Journal with the "extracts," purporting to be "a matter of history," could have been no friend to Dr. Elwyn.

But let us follow the impartial "extracts as matter of history," which show, that Nov. 1st, 1848, on motion of Dr. Elwyn, a committee of five was appointed for the purpose of conferring with the Agricultural Society of Bucks county, and all those of adjoining counties, with a view of giving greater force and effect to the operations of the different societies in their efforts to promote the cause of agricultural improvement." What effect or force this operation had or was intended to have, in favor of a State Society and Farm School, is not stated; until (I quote from the extracts) "Jan. 3d, 1849.—The committee appointed to confer with the

Bucks County Society reported having met and agreed to appoint a committee to confer with gentlemen in other counties on the subject of a State Agricultural Society, and to meet again Jan. 6th, 1849." "At this postponed meeting very little appears to have been done, (as might have been expected,) and the subject rested till the 5th of Dec., 1849, when the President of the Society, Dr. Elwyn, appointed a committee to take measures towards the formation of a State Society, as follows: Messrs. Gowen, A. S. Roberts, J. P. Wether l, J. C. Ford, Robert Hare, to which Dr. Elwyn's name was afterwards added." There is a sad hiatus and jumbling in the "matter of history" in this part of the records, for surely it was not regular in the President to appoint a committee on any special matter, unless a *resolution or motion to that effect had been previously made and carried*. It is clear that Dr. Elwyn could not have made the motion, and it is equally as plain that he could not have appointed the committee without the motion had been made and carried. Then who made it? Somebody must have made it, yet the "extracts" are silent as to who that *somebody* was, leaving the making or offering of the resolution, for a committee of five, to the agency of that universally mischievous imp, nobody! Whether nobody or somebody offered the resolutions "to take measures for the formation of a State Agricultural Society," I do know that it was made, and remember well the opposition it met with in its passage—don't the reporter of the "extracts" and every member recollect that? For never in all my experience have I seen anything so warmly contested in the Society's rooms as that resolution was: the matter of the "escutcheons and mirrors" was not a circumstance to it. How unaccountably oblivious, Mr. Editor, your matter of history is, in regard to him that offered and carried through that resolution; the very beginning of any thing since 1794 that held out hope, promise or determination towards a triumphant result. This is not all that we are made to wonder at in these remarkable extracts, for it appears from them, that in "Feb. 6th, 1850, the above committee was continued, and an address prepared by Dr. Elwyn to the farmers of Pennsylvania was read by Mr. Freas, and placed in the hands of the chairman, Mr. Gowen." "March 6th.—Mr. Gowen read an address which was afterwards published, &c."

These extracts are quoted literally from the May number of the Farm Journal, see page 158. Now let any candid man say what impression do the extracts convey, or were made or intended to convey, as to the history of the formation of the Pennsylvania State Agricultural Society and Farmers' High School? Why nothing less than a partial and highly erroneous one. A word as to the address said to be prepared by Dr. Elwyn, "and placed in my hands as chairman," and of my reading an address afterwards which was published. If it be intended by the report of the "extracts" to convey the idea that the address read by me, and published, was not of my own preparing, but Dr. Elwyn's, or that I made up mine from his, I must say that such an insinuation is so unjust, and withal so petty a piece of disingenuousness, as to entitle it to more of my pity than my resentment. The truth is, I was not present at the meeting of the 6th of February, when, as is said, Dr. Elwyn's address was placed in my hands, as no doubt the minutes of this meeting will show; nor was I even in the city on that day, for my diary reminds me, that on that day "I stayed at home to superintend the filling of my ice house." It requires no effort of mine at this day (beyond that which is enjoined upon every man as a duty to himself and the community, in not tacitly submitting to a wrong meditated against his principles or position,) to place myself in a proper attitude before the intelligent farmers of Pennsylvania,

relative to my exertions in furtherance of the establishment of the Pennsylvania State Agricultural Society, for I have long since realised the import of the old proverb that "good wine needs no bush." There is one of my fellow members named in this connection, that to his credit may it be spoken has luckily escaped a prominent place on the record of the "extracts as a matter of history;" I allude to A. S. Roberts, whose efforts were neither few nor unavailing in canvassing, and circulating the address that mainly raised the dormant energies of our farmers, and convoked that noble and never to be forgotten convention held at Harrisburg, on the third Tuesday in January, 1851, and which resulted in the formation of the State Agricultural Society. The assistance rendered by Mr. Roberts was, in the highest degree, creditable to himself and beneficial to the cause—success to him for it!

As to agricultural education, it is well known that some years ago I made a strenuous effort to establish an Agricultural College at my beautiful place, at Mount Airy, but it proved a mortifying failure. In regard to the State College, or "Farmers' High School," the most efficient suggestion, or movement of modern times, came from the best quarter possible, through the Hon. A. Russel, when Secretary of the Commonwealth, in his official common school report, wherein he recommended the endowment of an Agricultural College. Numerous pertinent articles by private individuals, published in the first volume of the Farm Journal, followed Mr. Russel's lead, which told well on the public mind. At the annual meeting of the State Society in '53, A. S. Roberts, as chairman of the committee on an agricultural school, made a report in favor of such an institution. The present Executive, Governor Bigler, in his last annual message took occasion to impress upon the Legislature the expediency of agricultural education, for which he is entitled to the thanks of every right minded farmer. And last, not least, the late lamented Elliot Cresson bequeathed to the Pennsylvania State Agricultural Society the sum of five thousand dollars, for the use of an Agricultural College in Pennsylvania. Finally, the Legislature granted a charter for such an institution, under the name and title of "The Farmers' High School of Pennsylvania;" but our worthy Representatives forgot to endow it with the funds necessary for its support, though I have no doubt but this neglect will be remedied by the next Legislature. We shall see if it don't.

Respectfully yours, JAMES GOWEN.

Mount Airy, May 15th, 1854.

A Public Benefactor.

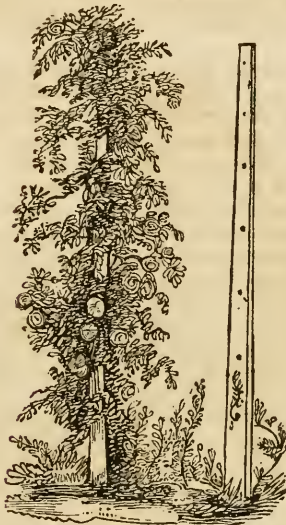
He is a public benefactor who, by the prudent and skilful outlay of his money in bettering its condition, shall make a single field yield permanently a double crop; and he who does this over a square mile, virtually adds a square mile to the national territory—nay, he does more, he doubles to this extent the territorial resources of the country, without giving the State any larger actual area to defend. All hail, then, to the improvers of the soil! health and long life be their fortune—may their hearts be light and their purses heavy—may their dreams be few and pleasant, and their sleep the sweet repose of the weary—may they see the fruits of their own labor, and may their sons reap still heavier harvests.—*Blackwood's Magazine*.

Growing Cucumbers.

Take a large barrel, or hoghead; saw it in two in the middle, and bury each half in the ground even with the top. Then take a small keg and bore a small hole in the bottom; place the keg in the centre of the barrel, the top even with the ground, and fill in the barrel around the keg with rich

earth, suitable for the growth of cucumbers. Plant your seed midway between the edges of the barrel and the keg, and make a kind of arbor a foot or two high for the vines to run on. When the ground becomes dry, pour water in the keg in the evening—it will pass out at the bottom of the keg into the barrel and rise up to the roots of the vines, and keep them moist and green. Cucumbers cultivated in this way will grow to a great size, as they are made independent both of drought and wet weather. In wet weather the barrel can be covered, and in dry the ground can be kept moist by pouring water in the keg.

ROSE PILLARS.



We have had the above engraving made with the view of showing a very simple and beautiful mode of growing climbing roses. A simple post, twelve feet long, so as to be about ten feet out of the ground, and having holes in both directions about six inches apart, through which the stem must be trained, will in a very short time make a perfect pillar of roses, and be one of the greatest ornaments of the lawn or garden. If of chesnut or cedar it will last for many years.

The main stems of the roses thus support themselves, and a little attention, by the aid of a light step ladder, in training them through the holes at first will dispense with much care afterwards. With some of the thrifty growing noisettes, constant bloomers, the entire post is soon concealed under a covering of roses. A profusion of bloom may be still further promoted by keeping shortened-in all straggling branches.

A dozen or more of these rose pillars, properly arranged, and with all the striking contrast of colors, from the deep scarlet and intermediate shades down to the pure white, would at all times be a conspicuous and attractive object. Cedar trees of small size, by having their branches shortened about one foot long, and planted for this purpose, also make an excellent support, but require more attention to keep tied up than the simple posts.

Culture of Roses.

To the Editor of the Farm Journal:—Can you inform one of the constant readers of your valuable Journal,

any thing about the culture and management of roses. I am an enthusiastic admirer of them, and endeavor to have a few of the fine kinds always in bloom in my window or small garden, and whenever I see a fine bloomer along our markets, or corners of the streets, purchase and carry it home; but from some cause or other, the buds soon wilt away, the leaves turn yellow, and even after turning it out of the pot and planting it in the border, it does not seem to recover and thrive till towards fall. I avoid the extremes of watering, keep them as much as possible in an even temperature, turn the pots round to the light, apply guano, water, &c., and still am most unfortunate. There seems no way for me to keep up a succession of blooming roses, but to continue buying all the time, and throw them away whenever they begin to droop or lose their buds. If there is any secret in the matter will you inform me what I can do.

JULIA.

[We suspect the difficulty arises from buying plants which have been forced and kept in flower through the winter, as is the case with many, and perhaps most of those offered for sale in the streets of Philadelphia. Plants must have a season of comparative rest. In the city green houses, roses are required for bouquets, and they are kept in a very different and much warmer temperature than that they are introduced into when sold. It is this sudden change of temperature which causes them to lose their leaves and decay. The fault is not so much with the vendors as with the purchasers. The latter will not buy unless plants are in flower, and of course the forcing process has to be resorted to, to make them saleable early in the spring. Roses that have been kept blooming all or great part of the winter cannot be expected also to keep blooming all summer. We greatly prefer such as have been kept dormant through the winter in a cold house, and if our fair correspondent would visit the green houses and enquire for such, she would have better success.—Ed.]

Mulching Trees.

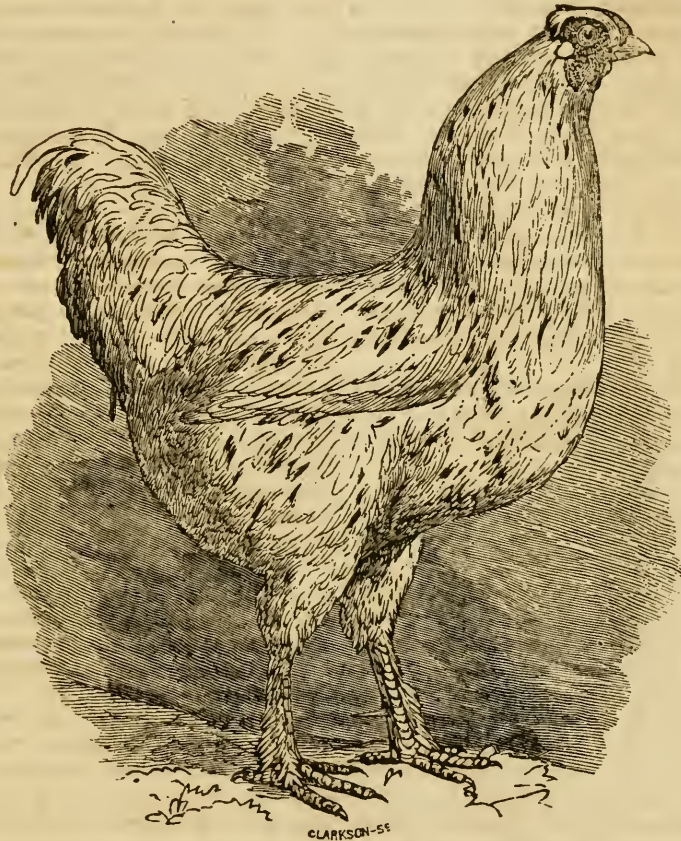
We cannot too earnestly or too often call attention to the necessity of mulching all newly planted trees, vines, roses, &c. Care in this particular is becoming almost as indispensable as skillful planting. It is the only safeguard against our increasingly variable climate, the frequent extremes of which from warm to cold and from wet to dry, and vice versa, induces a diseased condition of the sap vessels, gives a sudden check to its circulation, and we believe is very often the cause of blight in the pear and diseases in other trees. The instinct which prompts insects to prey upon all forms of diseased or decaying vegetable life is often shown in this way, and is considered the source of injury to the tree, while it is really sometimes a mere effect from the other cause.

Mulching is merely covering the ground under the tree or plant, according to its size, from a circle of one foot to perhaps three or four feet, with half decayed manure, partly decomposed chip dirt from the woodshed, leaf mould, hay or straw, to shade the soil and preserve an even temperature about the roots. The soil under this covering will be observed to be always damp by the prevention of evaporation. If manure is used it will also be carried down rapidly by rains, thus keeping the tree

in a vigorous growing state. Mulching does away with the necessity of frequent watering. In a dry spell of weather we have known newly planted trees and shrubs kept literally drenched daily with buckets of water. If the poor subject shows yellow leaves and other symptoms of disease, it is thought an indication of requiring more drenching. Hydropathy is again administered in increased quantities, till life is at last actually drowned out. The nurseryman then comes in frequently for the whole responsibility of having sold an unhealthy tree. And few there are, having planting to do, who understand its true philosophy and *modus operandi*; how few reflect, when disappointed in not having fruit or shade as soon as they expected, that the skilful *propagation*,

planting and management of a tree requires the nicest and most dextrous appliances of both scientific and practical study, that its growth from a small seed to its full size for removal and afterwards requires care, anxiety and close attention for years, and that while its *progress* is more interesting and beautiful than any handiwork of the manufacturer or mechanic, it requires at least *no less* patient industry and skilful treatment to bring about the desired result.

We recommend every one having an acre of ground, in addition to regular periodicals like the Farm Journal, to possess one or more of the many works on the management of fruit and other trees, ornamental grounds and shrubbery.



SPANGLED SHANGHAI COCK.

This splendid bird weighs $10\frac{1}{2}$ pounds, and is owned by J. Dorwart, Lancaster, Pa. The breed is valuable on account of their laying qualities. They feather sooner than the other colors, being in full plumage at

two months old. The pullets lay from forty to eighty eggs before inclining to set, beginning at the age of six months. Mr. Dorwart has bestowed great attention to his unsurpassed stock of fowls.

Curculio Remedy.

We see it stated that a Mr. Mathews, of Coshocton, Ohio, has discovered what he claims to be an infallible remedy for the curculio, but he has determined to submit it to no one till he has received "the favorable report of at least three horticultural committees, composed of men in whose skill and integrity the public will have the greatest confidence," and that afterwards he will

communicate the discovery, with specific printed instructions, whenever he has received from horticultural committees or individuals, offers of rewards, which, in the aggregate, shall amount to such sum as he may think a sufficient remuneration for his trouble, or if the Legislatures of one or more States will make satisfactory appropriations, he will make the remedy public for the benefit of every body.

If a *real* remedy for the curculio, as cheap and efficacious as the remedy for mosquitoes, which consisted of first catching and then extracting the sting, has been discovered, it will be a valuable discovery and worth paying handsomely for. The curculio at present seems to do away with the occasion for planting plum trees, especially the finer varieties. There is no probability of obtaining any fruit. Requests have been made that committees of three be appointed by the Boston Horticultural Society, the New York State Agricultural Society, and the Onondaga County Agricultural Society, to examine and report its effects on the crops of plums the present season. We shall hope for the best, but are doubtful.

Vegetables in California.

The California Farmer, published at San Francisco, contains an account of some extraordinary products exhibited at an agricultural exhibition at San Francisco, which seem entirely to distance competition in the Atlantic States. They are as follows, by different exhibitors:—12 bushels of potatoes, the product of three potatoes; one large and splendid beet weighing 36½ lbs.; three sugar beets weighing 19, 16 and 14 lbs.; one potato weighing 3½ lbs.; three onions weighing 9 lbs.; one measuring two feet in circumference; four squashes, 87, 70, 61 and 35 lbs. each; one drumhead cabbage, 25 lbs.; two specimens potatoes, 3½ lbs. each; one blood beet, 65 lbs. when cleared of leaves, 52 lbs. after being out of the ground sometime.

What will our friend P. A. Mason, of New Jersey say to this. He lives in a region famous for large pumpkins, watermelons, &c. Can they *beat* California in beets, or must we undertake it in Chester county?

Farming in Wisconsin.

We have been favored with the perusal of a letter from A. INGHAM, Esq., Secretary of the Wisconsin State Agricultural Society to Dr. A. L. ELWYN, of Philadelphia, which gives a flattering account of the condition of agriculture in that section of our country. Although in a large majority of cases our young farmers will perhaps do better to stay at home, and improve their systems of farming on their own paternal acres by deep plowing, scientific manuring, and the culture of new crops, which the extraordinary railroad facilities to and from our large cities have made profitable, rather than to emigrate to distant regions, yet to those who have determined to look out for new homes in the west the following extract from the letter may prove interesting. It says:

"Certainly our climate is colder than yours, but yet we raise Indian corn in its greatest perfection, and I have now lying on my table a corn stalk grown on my own farm measuring 18 feet 6 inches in length, and I had 100 bushels per acre as my crop. You know corn wants warm weather, too. This was, however, more than an average crop.

"I also cut three tons of grass per acre from my farm last fall, and I apprehend this must be a good yield almost any where. Still there are no doubt better grazing counties, but I am satisfied with this answer.

"Our fair this year take place on the 4th, 5th and 6th

days of October at Milwaukie, and it would give us great pleasure to see you and other Pennsylvania gentleman there. Cannot you come? There is this year no meeting to conflict I believe."

Chester County Hogs.

This valuable breed of hogs bids fair to become common in all parts of the country. Where they are known they are appreciated highly, and, with rare exceptions, their superior excellence has alone brought them into favor. There are no persons engaged exclusively in breeding them, on the contrary they are kept by plain, practical farmers, who having discovered that they grow rapidly and produce a greater amount of ham and shoulder, particularly the former, of a first rate quality, than any other breed, raise them as the most profitable of the hog kind. The growing and now extensive demand from all parts of the country is working a change, however, and young roasters have become scarce. There is scarcely a week that we do not hear of one or more pairs being sent to distant points. A few days ago our friend Thos. Wood sent some to Indiana and four to Ohio. Mr. W. has some fine animals.

Fourth Annual Exhibition of the Pennsylvania State Agricultural Society.

The necessary funds having been obtained, it is now understood as settled that our next State Exhibition is to be held in Philadelphia. Highly eligible grounds, very near the city proper, with the great central railroad on one side, and the Schuylkill river on the other, affording unusual facilities for bringing stock, implements, &c., from a distance without the expense of carting or driving them for two or three miles after arriving at their destination, have been procured, and there is every probability of an exhibition which shall eclipse all which have preceded it.

Some of our cotemporaries have been mourning over the great delay in raising the funds, and both surprise and some little indignation has been talked about as to the want of liberality in Philadelphia, that the necessary means for the exhibition were not *sooner* forthcoming.

This has all been unnecessary. There never has been the least doubt on the subject. It was considered so simple and easy an affair, that even an effort was not made till very recently, and if the fact of the exhibition being held in Philadelphia depended on it, double or treble the amount could have been raised in a few hours.

The premium list was published in our last, and we hope soon to be able to give further details of the minor arrangements.

Chester County Horticultural Society.

The stated monthly meeting was held on Saturday evening, the 13th ult.

First premium for the best display of green house plants to Joseph Kift, gardener to P. Morris & Co., for the second best to J. W. Hartman & Co.; for the best display of tulips to J. W. Hartman & Co.; for the best ten varieties of roses to Joseph Kift, gardener to P. Morris & Co., and for the second best to J. W. Hartman & Co.

The first premium for best lettuce, rhubarb and asparagus, and for the best display of vegetables, to Geo. Lentz, gardener to P. Morris & Co. Josiah Hoopes had some fine vegetables, Jonathan C. Baldwin fine asparagus, and E. Entriken some good rhubarb.

J. W. Hartman and Co. exhibited some seedling petunias, and seedling rhubarb of the Buist mammoth variety.

It was resolved to hold a floral exhibition on Thursday, Friday and Saturday the 15th, 16th and 17th days of June inst.

The constitution was amended so as to authorize the establishment of Professorships, and Prof. J. J. Mapes appointed Professor of Chemistry, Dr. Darlington Professor of Botany, and W. D. Hartman, M. D., Professor of Entomology.

Officers of Chester County Agricultural Society for 1854.

PRESIDENT—Isaac W. Van Leer.

VICE PRESIDENTS—John Parker, Gen. George Hartman, Dr. E. V. Dickey, Lewis Brinton.

EXECUTIVE COMMITTEE—A. R. McIlvaine, Paschall Worth, Dr. George Thomas, Thomas R. Trimble, Nathan Walton, Dr. Isaac R. Walker, Marshall B. Hickman, Abner Garret, Lewis P. Hoopes, John H. Kinnard.

COR. SECRETARY AND TREASURER—J. Lacey Darlington.

RECORDING SECRETARIES—James H. Bull, Wm. Torbert Ingram.

Delaware County Agricultural Society.

We observe with much pleasure this organization in an adjoining county. The movement is in the right hands, and we have no doubt of its entire success. The Delaware County Institute of Science has been in highly prosperous operation for many years, and has exhibited more intrinsic usefulness, activity and perseverance than any similar society in the State out of Philadelphia. A large number of its members, both male and female, are of a high order of intelligence and varied scientific knowledge, and have kept up their regular meetings and exhibitions uninterruptedly for a long time.

The schoolmaster was abroad in that little county, some years before he was awakened up in other portions of the State, and we shall consequently look for valuable aid to agriculture in Pennsylvania, from the associated efforts of her well skilled practical farmers in the new society. We know some of the officers just elected can hold the plow, and speak and write for the public with equal efficiency.

We hope they will adopt the plan of having, at least, monthly meetings for discussion or exhibition of agricultural or horticultural products. Interest in this way is well kept up, and greater vigor of the Society promoted. We have known many county societies to languish and finally die away, because meetings were held only once or twice a year.

New Ornamental Tree.

The Horticulturist of last month has a communication respecting *Rhus Cotinoides*, discovered by Nuttall on the high rocky banks of Grand River, Arkansas, which would no doubt be hardy here, and would be a valuable

acquisition to our stock of flowering ornamental trees. As its name imports, it is similar to what is known so favorably as the Purple Fringe or mist bush, one of our most beautiful and generally cultivated shrubs.

Rhus Cotinoides attains the size of a tree at least a foot in diameter, and 30 to 40 feet high, and flowers some weeks earlier than the purple fringe. When in full blossom it must be a magnificent tree, and we hope with the writer of the article in the Horticulturist, some one will introduce it into cultivation.

Black Spanish Fowls.

MR. DARLINGTON:—In the rage for choice fowls, it may be well for those interested to keep an eye to the nest, as well as to the carcass of the birds, particularly as the profit or loss of the "fancier" is likely to depend considerably upon the laying—not lying—qualities of the "hens," until the expectations of the great "fowl king of Pennsylvania" shall be realized, when "Shanghai" will be sold like beef in the market by the quarter, and in roasts, steaks and chops." It is therefore important, at present, to know which variety are the best layers, and I hope the owners of fine fowls will give the result of their observations in the Farm Journal.

To begin, I beg to state that one of my neighbors, James H. Bull, Esq., of this place, has a Black Spanish pullet, that laid seventy-nine eggs, consecutively, during the past spring, before manifesting any notion of setting. After clucking two or three days, she returned to laying again, and is going it as strong as ever. I may give you the result for a subsequent number. W. H.

For the Farm Journal.

HIGH FARMING.—No. 2.

There are points of view in which the result of High Farming is of much interest, and the first that comes before us, and which all will acknowledge to be of the highest importance, is what amount of capital one is justified in expending on land, consistent with what should never be lost sight of, a remunerative and profitable return. This point involves so many conditions that, in a country broad as ours, it is very difficult to gather them up, and then treat the subject as a topic, single and unconnected, or as a mere abstract question. The fairest way, perhaps, to start in the examination, is to place the person intending to farm in circumstances that admit of high farming, and not to deposit him on the cheap lands of the west, or among its wild and unreclaimed forests; farming, in the best sense of the word, is not there possible. One may buy land at low prices and support himself and his family from the products. But these do not increase his wealth, they are not taken as interest on his capital, they are merely such returns as provide him with the necessities of life, while the profit on his investment comes from the rise in the value of his land, with the clearing and filling up of a new country. There are many instances of great wealth obtained in this way, in whose accumulation the individual has had no other part than the enterprise and resolution displayed in taking the hazards of a settlement in a wilderness, and the sagacious selection of a good site and soil. Large estates have in this way, as if by the waving of a wand, fallen to individuals—a very few years have enriched men without an effort on their part.

But these accidents of fortune are not to be ascribed to farming, nor does the west offer examples or opportunities for the best development of agricultural skill. At present,

though not perhaps for many more years, the abundance of land in that part of the country, and the cheapness of all produce, will make agriculture a loose, inartificial and unscientific department of industry. Men must feel the pressure of competition, the active urgency of necessity, before they will make great efforts, and as yet, the west is not so compactly settled as to make hard labor an absolute duty, or a rigid requisition.

We must then, in our examination, select some other portion of the country, where land is dearer, population denser, competition more active, and all the circumstances more nearly resembling those of an old country, where land may be considered as capital and yielding revenue. There is, as yet, no part of this country where land rents for a sum that is considered a good interest on its value. Even in the neighborhood of large towns, where dairies are established, land at eight, twelve or sixteen dollars an acre does not pay an interest on the amount for which the land would sell. Railroads, which are every year becoming more numerous, give access so immediate to the interior, even to the remotest interior, that the necessities of life cannot rise to a very high price, without calling out the accumulations of distant though easily accessible territory. It is true that the value of produce in the west is assuming a more fixed nature—a home market is growing up there, with the increase of population, that will necessarily keep up prices here, but these will only stimulate our farmers to farm better and produce more, for nothing is wanted to effect this but the assurance that a profit will follow on the outlay of capital.

In a new country like ours, farms are very seldom selected as investments by the capitalist. As a source of amusement, sometimes as a speculation, but very seldom as a permanent investment, a farm may be purchased. As no one in this country is mad enough even to dream of doing that which in older countries is considered a duty, the purchasing a landed estate for the purpose of founding a family and transmitting a name. Land and farms bring up before the imagination of the moneyed man, no other idea than that of a most troublesome and unprofitable investment—no titles of dignity—baronetcies, earldoms or dukedoms—rise in the distance or are figured to the fancy, as illustrating a remote posterity, but the unhappy capitalist, who has been induced to buy large tracts of wild and unsettled territory, finds a half savage squatter, a dishonest agent, or a sharp and sponging lawyer, as very frequently among the realities of his landed possessions, and among other sharp rebukes to his wealth, and perhaps his avarice, his restless fellow citizens plunder him by a tax for non-residence, or by acts no gentler or more comfortable than their admiration and estimation of the value of his estate.

This condition of our country does not invite capitalists to buy farms, so that there is very little opportunity, or even possibility, for high farming. The land is owned, with very few exceptions, by those who cultivate it; a body of men, who, however great their industry or ability as farmers, have generally very little money, and who are well aware that any outlay beyond that which keeps up their fences, or prevents their barns from tumbling down, or preserves their implements in order, or their land in an ordinary productive state, is money lost, and is more likely to ruin than to enrich them. There are exceptions to this, but as a general rule it is, we think, true. But it is a condition of things which is rapidly passing away—the increase of population, the facility of access to markets, and the sympathy and combination of interest and feeling that has been produced by agricultural societies and agricultural periodicals, has awakened farmers to their true position, and broken through the apathy that arose from laboring in a depressed and unprofitable

pursuit. There is a spirit of inquiry abroad, a desire of knowledge, and an activity of mind among farmers, that will soon displace all old ideas, break down prejudices, and raise their art to a science, and themselves to a power in the republic.

Farmers have been charged with being slow to adopt any thing new, and as indisposed to examine or listen to any thing which was considered an improvement. Their knowledge of their art has been, it is said, merely transmitted information, that they did not use their own brain or senses, but labored dully on with the narrow intelligence and shallow load of facts inherited from a father, grandfather, a great-grandfather, or, it may be, some one even nearer the time of our first parents. The charge has some foundation and it may be true, that generations have successively through ages tilled their land on a mistaken, stupid and erroneous system. But it may be asked who was to tell them this? Were they to listen to inexperienced enthusiasts, surrender habits of action on whose results they could rely, and take up some new agricultural manœuverer, whose practice was conjectural, whose purpose and plan were as yet doubtful, and whose end was uncertain; the light weight of luck being in one scale and the heavier items of ruin and beggary in the other.

Can any one wonder that farmers are slow to change or to be changed, that they examine closely, and receive with doubt and even suspicion? They live by the sweat of their brow, their business is a struggle with nature; everything is let loose upon them—sun, earth and sky, all the elements existing therein, all existences, animate or inanimate, are the farmer's foes to battle with and conciliate, or his friends to aid, relieve and sustain him; which they are to be is concealed from him, but he must be prepared for the alternative, for each season is big with his fortune and his fate; yet his only weapons are this meagre knowledge that it pleases the inexperienced to ridicule, and the array of facts which have come to him by his own observation, or been transmitted through the instruction of others. Yet have not farmers adopted such changes, even innovations on their old practices, as have been recommended and shown to be of value by one of their own body, and can anything more be expected of men subsisting by their labor, and engaged in a pursuit so precarious, and so dependent on influences over which they have no control as that of cultivating the earth. If it were a possible thing to suppose that all the farmers of a nation were at the suggestion, or under the guidance of some empiric, or charlatan, to whirl round at his command, to throw up their whole experience, and take to some new plan of action, it might require some neat and nice calculation to sum the profit and loss, and the value of the crops. We are inclined to think that gaping and vacant pockets and pinched and peevish stomachs, would irritate and disturb the numerals of the arithmetician, and stir, in no small degree, the sensibilities of the nation.

Let farmers then be considered as understanding their business, and as the best judges of their own circumstances, and let those, who think they know more than they do, prove it by increased productiveness, larger profits, and a balance sheet, where the gains are manifest and the losses not concealed. Let this be done honestly and unequivocally, and the superior wisdom and superior ability of the innovator will be gratefully acknowledged and unhesitatingly followed, but till this is done let no man run his head against that solid wall of discretion and good sense, that it may please him, wise in his own conceit, to call ignorance or stupidity.

But those men, who under the resistless impulse of a genius for agriculture, or from vanity, or ambition, or the less

common feeling, a desire to be useful, became agriculturalists, always look to the amount of produce more than to that of profit. This constitutes the broad difference between the poor and prudent man who works, and the rich and reckless man who hires. The one has no ideal before him of perfect cultivation, he labors under no hallucination, formed from conceit and ignorance of his own superior qualifications, he knows and feels that life is with him a desperate struggle, that in case of failure he has nothing to fall back on, and when reports come to him of some one having raised fifty bushels or more of wheat to the acre, or a hundred bushels or more of corn, or other extraordinary and incredible facts in farming, he considers and calculates the cost and the outlay necessary to bring land into a condition so productive, and not the amount produced. The other sees visions and dreams dreams; he seeks fame, he is chronicled in a newspaper or a periodical as having whispered to the elements, or waved a wand over the earth, by which processes, unknown in general agriculture, crops, unprecedented in quantity, have sprung beneath his feet, but the cost is unknown—the powers with whom he is allied in his supernatural performances are concealed, the amount of money lost and thrown away is not revealed, and his farm ledger and balance sheet are as mysterious and obscure to the anxious public as a Mormon bible.

To the first of these persons, the question of the results of high farming is one of great importance; on it depends his advancement and the progress of his art, to the other it is of less moment, as he may continue to manure his land with gold and silver without ruin, though it is probable he will, in the end, be wearied and disgusted with the process, and tired with being an unappreciated victim of what is, in reality, his own folly and vanity. E.

DOMESTIC RECIPES.

TO BOIL HAM.—Cut some slices of ham a quarter of an inch thick, soak them in hot water for half an hour, or give them a scalding in a pan over the fire; then take them up and lay them on a gridiron, over bright coals; when the outside is browned, turn the other; then take the slices on a hot dish, butter them freely, sprinkle pepper over, and serve. Or, after scalding them, wipe them dry, dip each slice in beaten eggs, then into rolled crackers, and fry or broil.

SKIPPERS IN BACON.—I cure my hams with salt, sugar and saltpetre; after remaining down four weeks, as I take up the hams from the salt, I rub each piece on the flesh side with fine black pepper, and then hang up and smoke, a dark brown color, with green hickory wood, and then let it hang until wanted for use. Sometimes they have hung two years. Before I commenced using the pepper, I had to take my hams down and pack in ashes in the spring of the year. The above plan will prevent skippers in bacon.

CORN BREAD.—Everybody who has been at the Mansion House, at Buffalo, New York, has learned the luxury of the corn bread there provided. The clerk is often taxed to write directions for home manufacture, and I thus procured a recipe for domestic use, which I copy for you, so that those who wish may try a piece of bread from the Mansion. It is as follows: "One quart of sour milk, two table spoonfuls of saleratus, four ounces of butter, three table spoonfuls of flour, three eggs, and corn meal sufficient to make a stiff batter.

HOW TO MEND BROKEN CHINA OR GLASSWARE.—Mrs. William Shelton, of Frankford, Pa., sends us the following recipe for mending broken china or glassware; we do not know that the discovery is original with Mrs. S., but she has long used it with invariable success. Take unslaked lime, made fine by pounding or grinding, which mix with the

white of an egg to the consistence of starch or paint; thoroughly cleanse and dry the edges to be united, then apply the mixture to the parts to be cemented, place them together firmly, and let them become perfectly dry. Articles thus mended can be handled or washed without injury.

CHICKEN PIE.—Joint the chickens, which should be young and tender—boil them in just sufficient water to cover them. When nearly tender, take them out of the liquor, and lay them in a deep pudding dish, lined with pie crust. To each layer of chicken, put three or four slices of pork—add a little of the liquor in which they were boiled, and a couple of ounces of butter, cut into small pieces—sprinkle a little flour over the whole, cover it with nice pie crust, and ornament the top with some of your pastry. Bake it in a quick oven one hour.

MUFFINS.—Mix a quart of wheat flour smoothly with a pint and a half of lukewarm milk, have a tea cup of yeast, a couple of beaten eggs, a heaping tea spoonful of salt, and a couple of table spoonfuls of lukewarm melted butter. Set the batter in a warm place to rise. When light, butter your muffin cups, turn in the mixture and bake the muffins till a light brown.

LEMON PIE.—For one pie, take a couple of good sized fresh lemons, squeeze out the juice, and mix it with half a pint of molasses, or sufficient sugar to make the juice sweet. Chop the peel fine, line deep pie plates with your pastry, then sprinkle on a layer of your chopped lemon peel, turn in part of the mixed sugar or molasses and juice, then cover the whole with pie crust, rolled very thin—put in another layer of peel, sweetened juice, and crust, and so on till all the lemon is used. Cover the whole with a thick crust, and bake the pie about half an hour.

DYSPEPSIA BREAD.—Three quarts of unbolted wheat meal; 1 quart of soft warm water; a gill of fresh yeast, a gill of molasses, 1 tea spoonful of saleratus. This will make two loaves, and should remain in the oven at least two hours. It will need from eight to twelve hours to rise.

POUND CAKE.—One pound dried sifted flour, the same of loaf sugar, and the whites of twelve eggs and the yolks of seven. Beat the butter to a cream, add the sugar by degrees, then the eggs and flour; beat it all well together for an hour, mixing a table spoonful of rose water, a little nutmeg or cinnamon, two cups of cream, and a tea spoonful of saleratus. To be baked in a quick oven.

BREAKFAST BUTTER CAKES.—One quart of sour milk, one tea spoonful saleratus, a little salt, one and a half cups of boiled rice, two table spoonfuls of molasses or half cup of sugar, a little ginger, and flour enough to make a stiff batter.

BUTTER CAKES FOR TEA.—Beat two eggs, put them in half pint of milk, and a tea cup of cream, with half a tea spoonful of saleratus dissolved in the cream, a little salt, cinnamon and a little rose water if you like, stir in sifted flour till the batter is smooth and thick. Bake them on a griddle or in a pan. Butter the pan well, drop the batter in small round cakes and quite thin. They must be turned and nicely browned. Lay them on a plate, in a pile, with a little butter between each layer.

TO SWEETEN RANCID BUTTER.—It is said that washing rancid butter in milk, and afterwards in water, will restore to former sweetness. The experiment is easily tried, and the "consummation devoutly to be wished," for surely nothing is more repulsive than rancid butter.

TO SECURE BACON FROM THE FLY.—A writer in the American Farmer recommends as an infallible remedy against the fly: When your bacon is smoked early in the spring before the fly has made its appearance, take quick lime slackened to a dry powder, and rub the meat thoroughly on every

part with it leaving it adhere as much as possible; hang up your meat, and rest secure from any trouble from insects.

GREASE FOR CARRIAGE WHEELS.—This composition prevents friction to a great extent. Its cost is not comparatively greater than the materials often employed for the purpose; it is not changed by heat, and hence does not liquify and flow away from its proper place:

Black lead pulverised.....	50 parts by weight.		
Hog's lard	50	do	do
White soap.....	50	do	do
Quicksilver.....	5	do	do

Amalgamate well the lard and mercury by rubbing them together for a long time in a mortar; then gradually add the black lead, and lastly the soap, mixing the whole as perfect as possible.

WASH FOR THE HEAD.—The following wash, applied will a small piece of flannel to the roots of the hair, will be found excellent for removing dandruff;—Three parts of oil of almonds; one part of lime water; to be shaken up well, and can be procured of an chemist.

Philadelphia Society for Promoting Agriculture.

The Secretary of the Society, Alfred L. Kennedy, has kindly forwarded us the proceedings of its last monthly meeting, which we publish with pleasure, and shall hope to receive them regularly for the future. There is much practical talent among its active members, and its proceedings are of much importance and interest to the public:

STATED MONTHLY MEETING.

Stated Meeting at Masonic Hall, South Third street, Wednesday morning, May 3d, 1854.

Dr. ELWYN, President, in the chair.

Minutes of preceding meeting read and approved.

The following gentlemen, proposed at previous meeting, were elected resident members: Mr. W. H. Gatzmer, of Tacony, and Dr. Charles Willing, and Messrs. M. A. Kellogg, T. T. Lea, and W. R. Morris, of Philadelphia.

A proposition for resident membership was received.

The committee appointed to secure, by subscriptions from citizens generally, the holding of the next State Agricultural Fair at Philadelphia, reported subscriptions amounting to \$2,835, which amount would be increased several hundred dollars when full returns were received. The committee had not yet waited on retail dealers. It was so obviously the interest of that class, that the State Fair should be added to the business attractions of Philadelphia, that any deficiency in the required amount would doubtless be speedily supplied.

The President stated that little or no doubt existed that Philadelphia would be selected by the Executive Committee of the State Society, for the next grand autumnal display. He inquired if the committee had visited the grounds liberally offered for the purpose by the Pennsylvania Railroad Company.

Mr. A. T. Newbold had visited the grounds in company with Mr. A. S. Roberts, and examined their suitability for the State Fair. It has been objected that the locality was too near the city, and not well watered. Were such found to be the case, no difficulty could arise, as Mr. O. Jones' grounds, eligibly situated, one and a half miles from the bridge, were also at the disposal of the Executive Committee.

The President requested Mr. Cook, an English farmer present, to inform the Society of the estimation in which Italian Rye grass was held in England. The grass had been sown on Mr. Reybold's farm, in Delaware, and was much approved there.

Mr. Cook had sown the Italian Rye grass alone, two bush-

els to the acre—or better with eight lbs. red clover—late in the season. He had mowed four times a season, others five times, when used for soiling purposes. He knew no grass preferable to the Italian Rye grass.

Dr. Emerson called attention to the preference of the English farmer for imported seed, and thought that the American would do well to imitate his example.

Mr. Cook gave as a reason, that seed raised at home was generally mixed with that of other grass seeds. The yield of Rye grass was three tons per acre at first cutting, and one and a half tons at second. The best hay was worth £5 per ton, ordinary £4 per ton. The Rye grass sprang early. He had seen it one and a half yards high in April. It was eaten by cattle at all seasons, and did not purge. For soiling purposes in England, he had seen it mowed on 1st April. The orchard grass, extensively sown in America, was not approved of in England. A few pounds were sometimes sown at seeding time.

Mr. A. Clement did not regard the Italian Rye grass as affording good pasture. He acknowledged that it had an early start. He had seen it this season a foot high in patches in the city.

Mr. H. Ingersoll reminded the Society that the value of hay differed in the two countries. Our Timothy had not met with much favor at the London stables. Here it brought the highest price. When it sold at \$20 a ton alone, mixed with half clover it was rated at \$15.

Mr. C. W. Harrison inquired if cattle fed on rye grass hay, second cutting, slobbered or were salivated; other grasses caused the affection in this country.

Mr. Cook stated that such salivation was unknown in England.

Dr. Emerson remarked that the disease, if so it might be called, was ascribed, not to the grass, but to certain milky weeds. He felt more disposed to attribute it to the clover seed which produced salivation in the human subject, when given in decoction.

Dr. King had not observed cows salivated by the after-grass.

Mr. I. Newton's observations so far from agreeing with those of Dr. King, had taught him that cows were so affected.

Mr. Newbold mentioned that the Rye grass on Mr. Reybold's farm had been first brought from England about fifteen years ago, by a Mr. Blandon.

Mr. Cook thought that the plant had been unknown in England until about that time.

Dr. A. L. Kennedy, in reply to a question from the chair, mentioned that there were three species of *Lolium* growing in this country. The Italian Rye or Ray grass was the *Lolium multiflorum*.

The President said there was no doubt that the Italian Rye grass thrived in this climate. It furnished pasture several weeks earlier than the *Poa* family. It was less exhausting than Timothy. He invited an expression of opinion on the subject of subsoiling. He believed that in England the practice was not regarded with as much favor as formerly.

Mr. Cook said that with shallow draining, say one to two feet deep, subsoiling possessed value; but the present method of draining, three to four feet in depth, superseded the necessity for subsoiling. He had abandoned the practice entirely since he began to drain deeply.

Mr. Gustavus Engle had a neighbor who had subsoiled for corn with great success. The surface soil was light, the subsoil a yellow loam not tenacious. The first plowing was four inches deep, the second nine. Mr. E. had never seen finer corn.

Dr. King had experimented in subsoiling land previously drained. He did not think that draining superceded the necessity for subsoiling. Lands which, with drains two feet deep, had yielded in 1852 but ten bushels of corn per acre, was sown with oats the following year, after a portion had been subsoiled. On this, although the whole was otherwise similarly treated, both head and straw were much fuller. The present season the wheat on the part subsoiled, looks far better than that on the portion which had been merely drained. His subsoil is a stratum of clay four feet thick.

The President admitted that root crops required a loose soil, but questioned if herbaceous plants sought food very far beneath the surface.

Dr. Emerson had seen the roots of wheat three feet long. He would inquire what root crops were preferred in England.

Mr. Cook.—The purple-top Swedish turnip, which on land impoverished by continuous grain cropping, will, with three to four cwt. of guano per acre, yield thirty to forty tons of roots, tops off. These turnips are fed whole to stock. A large ox will fatten on a weekly ration of ten to fifteen cwt. of Swedish turnips and barley. The white turnip is seldom used. The average weekly allowance of a bullock may be twelve cwt. turnips and sixty lbs. straw, equal to two cwt. hay and three bushels corn. The corn being taken at seventy lbs. the bushel.

Mr. Newton preferred a mixture of turnips and Indian meal. Bullocks would fatten half as fast again, on a mixture, say half and half, than on either alone.

Mr. Ingersoll insisted that we forget differences in climate. Our turnips, as food, are not equal to the English. Our cattle would not fatten on them alone, although cows might be kept in condition.

Mr. Harrison thought that root crops were overrated in America. Grain was certainly cheaper in the end.

Mr. Cook hoped that members would not lose sight of the fact that grain impoverished the soil, while roots enriched it and left it in fine order.

Mr. Newton specified two bushels of corn and one and a half bushels turnips per week for a bullock of a thousand weight. Sheep fed on roots alone yielded mutton of inferior quality, by no means comparable in flavor to that from sheep fed on a mixed diet.

On motion of Mr. Ingersoll, that the further discussion of the subject be postponed until next meeting; which was so ordered.

A communication was received from Marshall P. Wilder, President of the American Pomological Society, inviting the election of delegates to the next annual meeting of the Pomological Society to be held in Boston.

Dr. Kennedy submitted for action at next meeting, a resolution, providing that new members on the payment of one dollar, be furnished with a framed certificate of membership.

On motion, adjourned.

Pennsylvania Horticultural Society.

The stated meeting of this Society was held on Tuesday evening, May 16th, 1854. The President in the Chair. The Hall was thrown open at 5 o'clock, P. M., and was graced with the elite of the city. A finer display has not been before the Society for many years. Contributions were brought from nearly all the Green Houses and Conservatories in the vicinity.

Premiums were awarded as follows:—By the Committee on Plants and Flowers—Pelargoniums, 8 plants, for the best to Robert Buist; Specimen Pelargonium, for the best to Robert Buist; Cinerarias, 8 plants, for the best to Thomas

Richardson, New York, (very fine and attracted especial attention); Roses, for the best and for the second best to F. Allgier; Tulips, cut flowers, for the best to G. W. Earl; Collections of Plants, for the best to John Pollock, gardener to James Dundas; for the second best to Robert Buist; for third best to T. Robertson, gardener to B. A. Fahnestock; Specimen Plants, for the best to John Pollock; for the second best to James Kent; New Plants, shown for the first time, a premium of \$4 to Robert Buist for Orchids, Geraniums, and Begonia Zanthina; of \$1 to John Pollock for Orchids; Table design, for the best to Jerome Graff, gardener to C. Cope; Baskets, for the best to Jerome Graff; for the second best to Alex. Burnett, gardener to H. Pratt McKean; Indigenous Flowers, for the best to Meehan & Saunders; Bouquets, pair, for the best to Jerome Graff; for the second best to James Kent. Special premiums—\$3 to Charles Miller for a collection of plants; \$2 to John Pollock for Gloxinias and other plants; \$2 to Thos. Richardson, N. Y., for beautiful Calceolarias; \$2 to John Sherwood for a collection of Roses.

The Committee called particular attention to a beautiful collection of miscellaneous plants by Wm. Sinton, gardener to Mrs. Dr. Rush, to which they award a premium of \$5. They also call special attention to two very fine specimens of Streilitzia regina, for which they award a special premium of \$3 to Isaac Collins, gardener to Gen. Patterson. Attention was called to a good collection of cut flowers, from Mrs. Holbrook, New York, David Scott, gardener.

By the Fruit Committee—special premiums, viz: To Albinus L. Felton, for a fine collection of Strawberries in pots, with ripe fruit, \$3. To Jerome Graff, gardener to C. Cope, for four bunches of Black Hamburg Grapes, \$2. For seven fine Lemons, from H. N. Johnson, \$1. They also notice a dish of fine apples from Dr. Hull, of Alton, Ill., deposited by H. N. Johnson.

By the Committee on Vegetables—Rhubarb, 12 stalks, for the best to Samuel Cooper. Asparagus, 24 stalks, for the best to James M. Tague; for the second best to Jerome Graff. Vegetables—Display for the best by a market gardener, to A. L. Felton; and a special premium of \$1 to Jerome Graff, for 3 dishes of very fine Tomatoes.

Farmers' High School of Pennsylvania and the Death of Elliott Cresson.

The following resolution, offered by James Gowen, Esq., at a meeting of the Executive Committee of the Pennsylvania State Agricultural Society and unanimously adopted, has inadvertently escaped notice in the Farm Journal. The liberality of the donor in a matter of such vital interest to Pennsylvania, deserves a permanent record in its pages, and we make the insertion with much pleasure:

The death of Elliot Cresson, Esq., which occurred at Philadelphia, on the 20th of February, 1854, in the 58th year of his age, has left a void in the ranks of Philanthropy, Benevolence, and private worth, difficult to be supplied or filled, causing a deep sensation of sorrow and regret that his labors in the broad field of human rights and human progress had not been vouchsafed a longer day, with a slower setting sun for the further development of his noble efforts, and to mitigate the grief of his bereaved relatives and friends. But they, and the whole community, have the consolation to reflect that however brief his probation, he did not live in vain: and "though dead he yet speaketh" in the memorials he has left for their example and contemplation. In these regrets, and in these memorials, this Society is deeply a sympathiser and most gratefully a debtor.

Resolved, That this Society, at its first meeting since the decease of the lamented Elliot Cresson, offers its tri-

bute for the sudden and unexpected loss it and the community have sustained in the death of an enlightened philanthropist, an upright, benevolent citizen, and a public spirited benefactor.

Resolved, That the generous bequest of \$5,000 to this Society, by the will of the late Elliot Cresson, towards the erection and support of an Agricultural College, demands our grateful and unfeigned thanks, and commands the sympathy and respect of every farmer throughout the land.

Resolved, That the Pennsylvania State Agricultural Society will, and do hereby accept the bequest made to it by the will of the late Elliot Cresson, Esq.'r, and hereby pledge the Society to the faithful application of the same to the object designated by the will of the testator.

Resolved, That these proceedings be published in the daily and weekly papers of Philadelphia and Harrisburg, and that a copy of the same be presented to his venerable lady mother, as a token of "The Pennsylvania Agricultural Society's" respect and gratitude to the memory of her noble son, and of deep sympathy in her bereavement.

Geology and Agriculture.

A correspondent of one of our English exchanges states that in these days, when agriculture is regarded as a scientific pursuit, and chemistry and engineering are held up as her crutches, we are apt to forget that there is another science to which the agriculturist is deeply indebted, namely, geology. It is not meant that the importance of geology is overlooked by scientific men; the able works of Professor Johnson, Mr. Morton, and others, prove that it is not from those that geology receives her slight, it is from the practical farmer; he speaks with due gratitude of the chemist, who has opened to him rich sources of fertility in new artificial manures, and has taught him how to make the most of those already at his command; he is not unthankful to the engineer whose genius has lessened the cost of production by improvements in his implements, and by the removal, by means of drainage, of all surplus water; but he passes by the labors of the geologist, who points out to him the general characteristics and physical properties of his soil, directs him where and at what depth he may expect to find marl, lime, or other minerals, who by his maps indicates where he will find such a soil as will suit him, and by comparing districts of a like geological character, can tell him what plants are likely to succeed best in any given district. But these are advantages which the farmer is very apt to forget, probably because he does not avail himself of them to that extent which he might. Geology is a science, the study of which the agriculturist would find of great value to him, and yet one which he habitually neglects.

Milch Cows and Fattening Calves.

A little consideration will convince any one that milch cows are kept in a more artificial condition than any other of our domestic animals. We force them, in many cases, to give milk ten months of the year. Whereas, all that other animals—sheep, swine, horses, &c.—are required to do in this respect, is to afford sustenance to their young. It would seem, therefore, that while in all animals the latter period of gestation and parturition are attended with more or less danger: in the case of the milch cow, the danger is considerably heightened, sufficiently so, at least, to warrant the greatest care and attention.

Cows that are not milked can be kept in fair condition through the winter upon good straw and corn stalks. But towards spring, say six weeks before calving, they should have a little hay, or shorts. When fed on a bulky or comparatively innutritious food, such as straw or stalks, there is a danger of costiveness, and more or less inflammation. A more concentrated food would prevent this complaint. We know of nothing better than three or four pounds of oil-cake meal per day. Not only is it highly nutritious, but it

is slightly aperient, and, therefore, just suited to the case. Mangel wurzels, too, are aperient—much more so than ruta bagas or potatoes, but we do not know how they compare, in this respect, with beets or parsnips. Every dairyman, and in fact every farmer who keeps a cow, should have a few roots, at least, to feed out in the spring of the year. Nothing can pay better.

Slipping the calf, or slinking, is not uncommon, and is attended not merely with the loss of the calf, but with great injury and danger to the cow. The cause of this troublesome complaint is to be ascribed to violent exercise, fright and knocks, or other ill treatment. A more common cause of slinking, is a disagreeable, nauseous smell. For this reason, the cow stables should be well ventilated, and kept scrupulously clean at this season. Especially should caution be exercised in killing hogs, bleeding horses, &c., for cows have a mortal antipathy to blood, and nothing is so productive of slinking, as carelessness in these particulars.

The best time for cows to "come in," depends much on circumstances. Usually, where cows are kept for the dairy, in the north eastern and western States, about the middle of April is considered best. Though, where the calves are raised for the butcher, in the neighborhood of cities, where early veal commands a high price, it will be profitable to have them come in earlier.

If the cow is in a healthy condition, little trouble will be experienced in calving. After the cow has calved, she should have some warm bran slops, and be carefully attended to. The first milk ought to be drawn out of the bag before the calf is allowed to suck; and afterwards, if the bag should become hard, as very frequently happens, it is advisable to draw out as much of the milk as possible, previous to letting the calf suck. In this way, from the calf butting the udder and drawing the milk out clean, a cure is speedily effected. If, however, the udder should be much inflamed, it should, in addition to drawing out the milk, be well rubbed with buttermilk and castile soap.

In some districts, it may be the best economy to sell off the calves when a week or ten days old, or even to cut their throats as soon as they are born—the milk proving more valuable when converted into cheese and butter, than into veal. Such, however, is not the case when good veal sells, as it does here, at from six to ten cents per pound, unless the butter should command an unusually high and exorbitant price.

In fattening calves for the butcher, they should be sucked regularly, be tied up in a dark, clean stable, and have a little fresh, clean straw thrown under them every day. Much depends on their being kept clean, dry and quiet. In suckling them, let the strap remain round their necks, so that you can manage them more easily. Take them away as soon as they have had their fill, and do not let them run about the cow stable or yard. If they are kept clean, they will not be troubled with lice. If they should be, give them a little sulphur; it will both purify the blood and rid them of the parasite.

After, as before parturition, the main difficulty with cows is costiveness. A feed of magel wurzel, or two pounds of oil cake meal made into a warm mash, will be found the best preventive. The increase of milk will pay for the oil cake, while the increased health and strength of the cow will be pure gain, and will tell well in the milk pail during the summer. It is absolutely essential that cows be milked clean at all times, but especially is it necessary immediately after calving.

It is hardly necessary to remind our readers that it is absolutely necessary, at all these times, to be good natured and kind to cows. Especially should it be remembered at this season. Never suffer yourself to fall into a passion with a perverse cow. It will do no good, and much mischief. Kindness and gentleness to all animals is politic, but with milch cows it is absolutely essential. However unruly and ugly a cow, or especially a heifer, may be, never beat or kick her; harsh treatment only makes the matter worse, while kindness will tame a tartar.

To Cure Founder.

The Ohio Cultivator gives the following recipe for curing the founder—more correctly speaking the water-founder:—"Bleed the horse from the neck as long as he can stand up; then make him swallow one pint of salt; anoint well around the edges of his hoofs with spirits of turpentine; keep him from drinking too much water, and he will be well in a few hours."

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Scraping and Washing Fruit Trees.

"Too much Philosophy hath made thee mad."

In this progressive age, when mind seems actually to have broken loose from ancient moorings and land marks, when new ideas and discoveries before unheard or unthought of, however startling, cease to produce any wonderment, because they are soon succeeded by others no less so, there *may* be a real danger and loss to the farmer and horticulturist from the too hasty adoption of new fangled theories. There seems to be no attraction now for aught but new things in many branches of industry and most departments of science. Old fogysm is dying off, and soon young America will have sole possession of the field. The genus *Homo* has been variously described by naturalists. Lord MONBODDO's definition was "that man is an animal who has worn off his tail by an absurd practice of setting on chairs." Some have defined him as one who uses tobacco, no other animal using the vile weed. Others as an animal who bargains, no other biped or quadruped being known to make deliberate exchanges. It seems to us that, at least in the United States, man may be defined to be "an animal that meets in convention and passes resolutions." Town and county meetings, congresses, conventions on every conceivable subject and on every conceivable occasion, seem to be the ruling passion, the order of the day. Nothing can now be done, hardly the laws of nature established 4000 years ago be allowed to run their eternal circuit, without some solemn conclave or other, and the passage of a very formidable set of resolutions.

We are induced to make these remarks by the receipt of a pamphlet, entitled "an enquiry into the uses and abuses of the practice of scraping and washing trees, by a committee of the Massachusetts Horticultural Society."

The action of the Society on the reading of the report and resolutions was that they be printed, and then laid on the table. Believing that they are calculated to do a vast amount of injury (unless good results indirectly from their absurdity), it would have been better we think for the Society to have put them under the table previous to printing and circulating.

Such premises and conclusions are calculated to produce real disgust in the *practical* farmer and gardener against what is commonly styled book farming, and to give a real embodiment and form to this *imaginary* enemy to improvement. It is not to be wondered at, when those who have *tried* and *know* the great advantages of washing the trunks of fruit and other trees read such reso-

lutions, that book farming should be a by-word of reproach. The recommendations of the committee are so opposed to all our experience and practice, and also we believe true scientific theory, that they struck us almost like burlesque. We hope the appreciation of the beautiful will in Pennsylvania differ entirely from that in Massachusetts, "where lichens and mosses in all their varied colors and forms on the bark are considered chiefest ornaments." We advise our farmers and gardeners to find beauties elsewhere, and so soon as they discover "these chiefest ornaments" about their fruit or ornamental trees, to get to work immediately with a swab and plenty of soft soap and lye, mixed in equal parts, or a solution of one pound of potash to five gallons of water, and apply it day after day till they are all clean gone, and the bark shows signs of *health* and *pliability*.

The committee seem to think every thing should be left to nature, "that she is the only true guide in horticultural operations, and that any aim to reduce rough bark to smooth, or vice versa, is decidedly unscientific." If this solemn resolution, No. 4, means any thing, it implies the very opposite of "man's earning his bread by the sweat of his brow;" that we have only to sit still and watch nature to do every thing for us. Our advice to the farmer and fruit grower is to make art assist nature; to study to guard against the thousand causes of disease and death, which on all sides interfere with his best efforts, both on the farm, in the garden, in the orchard; to watch the habits and modes of preventing the ravages of insects; to aim, like the skilful physician, to ward off or moderate the force of disturbing causes, which demand the greatest amount of activity and intelligence to obtain either fine fruit, or healthy, luxuriant foliage.

Mosses and lichens, bark lice, aphids, &c., so far from being "ornaments," we always consider evidences of want of vitality in the bark, through the inner coating of which the sap descends, and on a healthy condition of which depends very much the health of the tree. These "ornaments" are very apt to attach to newly transplanted trees, prey upon and draw their life from it, and there can be no rapid and healthy growth unless they are speedily removed. The bark is part of the circulating system, and in both vegetable and animal economy the law holds good, that the healthy condition of every portion of the mechanism is necessary to the health of the whole. What fruit grower has not seen the benefit of applications, which transform a rough, bark bound, hard and sluggish exterior surface into one bright, soft

and pliable, through which the sap can flow unobstructed to perform its proper offices, which is the same in both fruit and ornamental trees whatever the report may assert to the contrary. We doubt very much if the *laws of nature* are different in New England and Pennsylvania, and we can point in this vicinity to many places where marked and extraordinary benefit has resulted from the very practices the Massachusetts Society has condemned. We submit below the report of the committee, parts of which are somewhat contradictory, and may be made to mean any thing or nothing. It will be observed that not only whitewash, now generally and properly discarded, but all other applications to the trunks of trees, are condemned:

"That, whereas it is a common custom to scrape off the outside bark of fruit and ornamental trees, and wash and plaster them with lime and other preparations, in the hope of benefiting the trees by the destruction of parasites and insects injurious to vegetation, and of improving their general appearance, the Massachusetts Horticultural Society do hereby resolve, for reasons which have been stated, they consider this practice of no benefit to the tree *from its inability* to affect the majority of the *insects which are really injurious*; and unnecessary in the case of lichens and mosses, they being not *the cause but the consequence of disease and decay*; and a positive violation of the laws of vegetable physiology, and consequently an injury to all trees, but ornamental in particular, to an *inecalculable amount*.

"*Resolve 2d*, That as lichens and mosses, in a healthy state of the tree, are, so far as can be ascertained, no injury to the bark, but, from their varied colors and forms, one of its chiefest ornaments, any operations for their removal are to be scrupulously avoided, and reprehended.

"*Resolve 3d*, That as strict inquiry has shown that bark lice, woolly aphids, and some borers do lay their eggs and hatch their young upon the bark of apples, pears, peaches, and maples, *near the ground, and in the forks of the branches*, a gentle rubbing with some pliable but stiff wire or other brush, on the parts affected, to be followed by a washing with weak, soft or whale oil soap suds, is desirable and will be of benefit, when a careful examination shall have shown that the eggs are deposited upon any tree in question, *but that this process is unnecessary, and uneconomical when the presence of the enemy has not been most clearly proved*.

"*Resolve 4th*, That nature is the best and only true guide in horticultural operations; and that if we wish to equal her in the health and beauty of our plantations, we must as nearly as may be follow in her footsteps; that as she provided some trees with rough, and some with smooth bark, there can be no doubt that the cortical differences have an intimate connection with, and relation to, the vitality and economies of the tree, and we view any separation of it from the tree, or any operations on its surface having for their aim to reduce the rough bark to the smooth, or vice versa, *decidedly unscientific, and unworthy improved horticulture*.

"*Resolve 5th*, That as it has been shown that fruit trees are specially liable to be injured by a few insects, whose eggs may be removed by proper rubbing, it by no means follows that all trees are to be subjected to the same

treatment; that we would most strenuously discountenance any such universal medicinal practice; that it must not be forgotten in reasoning with regard to horticultural operations, that fruit trees are *sui generis*, and being necessarily diseased need much more care and attention than ornamental; and as we grow the one for fruit alone, and the most of it we can get, and the other for beauty and shade, so each needs a separate culture; and as one of the most delightful charms of the ornamental tree is this very roughness of bark, with its accompanying lichens, we consider *that man's taste unworthy and uncultivated who can lay a rough hand upon the tree to reduce all to one unvarying uniformity*.

"*Resolve 6th*, That as all bark is, from its composition, open to the attacks of alkaline preparations, and as no good and sufficient reasons can be adduced for their use, and as their caustic and cement-like nature tends to destroy the tissues, and prevent a proper expansion of the bark and stem, and as they are necessarily accompanied with considerable outlay, *we most sincerely hope the practice will cease*.

"*Resolve 7th*, Although the subject of pruning has but little connection with bark culture, still, as they go hand in hand, they may not unreasonably be discussed at the same time; and whilst, for the *reasons above stated*, fruit trees need peculiar cultivation, and a certain amount of pruning, ornamental require only to be well planted and manured, and should never be touched by a pruner's hand further than to remove dead wood, and we do regard with great sorrow and regret, all those efforts by the ignorant to trim away the beauty of the lower and hanging branches, *reducing the tree, in too many cases, to a close resemblance of a bunch of brush elevated on the top of a pole*."

Soiling Cattle.

Are any of our readers able to give us practical data from their own experience with soiling. Despite the difference in climate between this country and England, we have always believed, with the *right* management, it could be made, even with our drier temperature, exceedingly profitable in particular locations. That the *health* of animals, when confined in small enclosures, or even in well ventilated airy stables, is as good as when allowed a large range, appears to be well established, not only here, where experiments on a small scale have been made, but also in England, where in many of the largest dairies, the cows are wholly soiled, and never moved from their first being tied up till they go to the butcher.

In some of the larger establishments there, it is asserted that the amount of milk in the year is *greater* than when the cows are pastured, which is owing to their being less exposed to the vicissitudes of the seasons, and to regularity in the quantity and quality of food. In the vicinity of large cities where land is valuable and every rod should be turned to good account, it is well worth a fair trial. The advantages are:

1st. That at *least* double the stock may be kept on the same land, and probably treble.

2d. The great increase, easier control and better management of the manure heap.

3d. The very great saving of inside fencing, which will be found a very important item.

The difficulties of a regular system of soiling in the United States consist chiefly in the high price and scarcity of labor, the want of a rapid renewal and succession of crops for a supply of green food, and the backwardness of early spring growth. In England they grow winter vetches, rye, Italian rye grass, lucern, &c., which seem to give exactly the proper succession for soiling, with continuous growth for nearly the whole year. The first objection respecting labor will not be found so great on trial, and indeed a few minutes operation of a mowing machine, now coming into general use, may obviate it entirely. We know of one case where twenty cows are kept up all the year round, and through the season of pasture the attention of a single extra man is all sufficient. Being accustomed to stock ranging over large fields, tramping and otherwise destroying of their abundance, we are not aware how small a quantity of grass is really ample enough for a meal. Enough only should be given, and all superfluous leavings should be immediately removed. A suitable interval then allowed, the length of which, as well as quantity, can only be determined by the close observation and undivided attention of the attendant. In the soiling system, we greatly prefer small yards to stabling. Shade, shelter in stormy weather, a plentiful supply of water, and constant access to salt, are also essential. The intervals between the feeds the man can most profitably occupy by attention to the manure and compost heap; the profits from this attention, such as shovelling up the yards, wheeling the manure under the shed, composting it with soil from the headlands, plaster, &c., saving the liquid manure and pumping it up for occasional distribution over the heap, would alone doubly pay all his wages.

In respect to a succession of suitable crops, there is apparently more difficulty here than in England, in its very moist and more equable climate and shorter winters. We cannot speak so certainly about lucern, but the rye grass grows most luxuriantly in Chester county, and in fair seasons will bear three successive cuttings. Stock are very fond of it, and will eat it in preference sometimes to our natural green grass.

Then we have a most extraordinary crop for a system of soiling in Indian corn, drilled in rows, which is highly nutritious, grows fast, and yields enormous products to the acre. Many successive sowings can be made, and together with rye, rye grass, and our red clover, will make an agreeable variety for stock.

The regular culture of root crops should also be indispensable. Those fed late in the winter particularly, or early spring, before grass is abundant, are much relished and greatly promote the health of animals.

On the whole our conclusion is that soiling, judiciously and economically conducted, will pay, and we hope to hear of experiments with it the present season

Officers of the Delaware County Agricultural and Horticultural Society.

The first annual election of the Delaware County Agricultural and Horticultural Society was held at Media on the 23d of May last, when the following officers were elected for the ensuing year:

PRESIDENT—Joshua P. Eyre.

VICE PRESIDENTS—Hon. James Andrews, Hon. Sketch-

ley Morton, Christopher Fallon, Esq., and Thomas Pratt.

DIRECTORS—William Eyre, Jr., H. J. Brooke, James Campbell, Nathan Garrett, John Mendenhall, Jacob Hewes, John Miller, Townsend Speakman, Abram P. Morgan, and David S. Bunting.

TREASURER—George Sharpless.

RECORDING SECRETARY—George Drayton.

ASSISTANT SECRETARY—Jackson Lyons.

CORRESPONDING SECRETARY—Joseph Edwards.

The Township Committees for collecting the names of members, appointed at a former meeting, were discharged, and the following Committees appointed:

Aston—A. P. Morgan, Thomas Williamson.

Bethel—S. F. Larkin, John Clayton.

Birmingham—Gideon Speakman, John D. Gilpin.

Chester Township—William Powell, Joseph Engle, Jr.

Chester Borough—William Eyre, Jr., James Campbell.

Concord—J. S. Peters, Charles Palmer.

Upper Chichester—W. H. Grubb, George Broomall.

Lower Chichester—David Trainer, John D. White.

Upper Darby—G. Drayton, N. Garrett.

Darby—R. K. Smith, M. D., J. M. Bunting.

Edgmont—Isaac Yarnall, John Mendenhall.

Haverford—Charles Johnson, Haydock Garrigues.

Marple—George Esery, Abram Pratt.

Middletown—A. Pennell, James Barton.

Newtown—A. L. Williamson, Robert M. Thomas.

Upper Providence—John Miller, H. Jones Brooke.

Nether Providence—M. Lewis, John Sharpless, Jr.

Radnor—Mark Brooke, Jesse Brooke.

Ridley—Jacob Hewes, Israel Maddock.

Springfield—William Ogden, Sketchley Morton.

Thornbury—Samuel Bennington, Aaron England.

Tinicum—William Hunter, William Ward.

The following are among the resolutions adopted by the meeting:

Resolved, That this Society hold its first annual meeting or exhibition on 5th, 6th and 7th days, being the 14th, 15th and 16th days of September next.

Resolved, That the President be authorized to invite proposals of persons in the different localities in the county for the purpose of securing the Exhibition of the Society, and that he give special notice of the same.

Sweet-Scented Vernal Grass.

In our last number (page 172) we published a communication by Dr. EMERSON, which had been originally written for and published in the Boston Cultivator, stating in an editorial prefixed that we had been furnished with a copy by the author. The editor of the Cultivator recently replied to this communication, and also furnished us with a copy for publication in the Farm Journal, which we cheerfully do:

On the 18th of March last we published the following paragraph:

"Several papers are recommending the sweet-scented vernal grass (*Anthoxanthum odoratum*) as a good pasture grass for cows. We hope no one will be induced to try it, as there are many better kinds. It is a mistake that the excellence of Philadelphia butter is owing to this grass. The idea never could have proceeded from an observing farmer. Cows are not fond of it, and only eat it when better cannot be had. The June grass (*Poa pratensis*) abounds in many pastures around Philadelphia. It is one of the sweetest and most nutritive grasses, and is well known to be one of the best for feeding dairy and fattening cattle."

On the 22d of April, we published a communication from G. EMERSON, Esq., of Philadelphia, controverting the positions of this article. We have delayed a reply to Mr. EMERSON for the purpose of collecting facts, which would enable us to place the subject before our readers in a proper light.

The main point in Mr. EMERSON's communication is, that the sweet-scented vernal grass furnishes "the proximate cause of the delightful flavor for which the butter in the Philadelphia and many European markets is distinguished." It is of importance to the public to know whether this assumption is founded in truth or not. The most certain mode of settling the question would be to feed a cow for a given time wholly on the sweet-scented vernal grass, and an equal time on other species, and compare the butter, as to quality, produced by each. This might be considered demonstrative evidence, but as it is not attainable we must take the best within our reach.

First then, let us examine the case on the principle that like causes produce like effects. To avoid collateral questions, it will be conceded that Mr. EMERSON and others are correct in the opinion that no butter in the United States possesses the "exquisite flavor of Philadelphia butter." Mr. EMERSON says he has discovered that this superiority is caused by the cows feeding on the sweet-scented vernal grass. What are the grounds for this conclusion? Does the grass alluded to grow more in the neighborhood of Philadelphia than elsewhere? We have examined the pastures of many of the most celebrated grazing districts of this country, and in none of them is this grass more abundant than it is in the vicinity of Boston, though it is common in other parts of New England, and in New York. If it is the cause of the goodness of the butter in one place, it should produce the same effect in other places where it must be eaten to the same or a greater extent. This argument of itself sufficient to prove either that the idea of the superiority of Philadelphia butter must be abandoned, or that the excellence of the article cannot be caused by the sweet-scented vernal grass.

As to the chemical question involved in Mr. EMERSON's communication—that the sweet-scented vernal grass yields benzoic acid on analysis—it cannot affect the point at issue, until it is shown (which has not yet been done) that this acid actually produces the peculiar sweetness and flavor of the butter.

The next point which demands attention is the comparative value of this grass. What better rule can be had as to this, than the estimation in which the grass is regarded by animals? Their instincts are unerring in regard to the selection of food best fitted for nourishment, and their preferences afford a safer guide to the farmer than any hypothesis opposed to this self evident principle.

We said that cows are not fond of the sweet-scented vernal grass—that they prefer many other kinds. This statement was made from personal observation. To show that our ideas in this particular, as well as in regard to the comparative value of the grass, agree with the best authorities, we invite attention to the following extracts:

Loudon says of this grass—"It is chiefly valuable as an early grass; for though it is eaten by stock, it does not appear to be much relished by them."—*Cyclopædia of Agriculture*.

The *Complete Grazier* says—"Mr. SWAYNE thinks it of little consequence, as it is neither very productive to the farmer, nor relished by cattle. It is certain that cattle will not eat it while they can get at other grasses."

SINCLAIR, in his account of the Woburn experiments on grasses, regards the sweet-scented vernal as entitled to a place in the composition of all permanent pastures but says: "The chief property that gives merit to this grass is its early growth, though in this respect it is inferior to several other species which are later in flowering. It thrives best when combined with many different species, and is, therefore, a true permanent pasture grass. It does not appear to be particularly liked by cattle, though eaten in pastures in common with others. Mr. GRANT, of Leighton, laid down a field of considerable extent; one-half of which was sown with this grass and white clover, the other half with meadow fox-tail and red clover. The sheep would not touch the sweet-scented vernal and white clover, but kept constantly on the fox-tail grass, though the dwarfish nature of the sweet-scented vernal had occasioned an unusual degree of luxuriance of the white clover with which it was combined. This would indicate that it is not, when single or when combined with but

two or three different species, very grateful to cattle. The chemical examination of this nutritive matter, shows that it does not abound in saccharine matter, but chiefly in mucilage; and the insoluble extract is in a greater proportion than in many other grasses."

Those persons who know with what avidity sheep usually eat white clover, will readily understand why it was rejected in the above case. Mr. EMERSON says the sweet-scented vernal grass is "capable of communicating a delightful flavor to the meat of sheep and other stock." It is evident that in Mr. GRANT's experiment, the sheep had no desire to "flavor" their meat with this grass.

We come now to American authorities. The late Judge BUEL, of Albany, writing to the *American Farmer* on the subject of grasses, regards the sweet-scented vernal as valuable in pastures on account of its affording early feed, &c., but says—"it is of diminutive growth, and is not worth cultivating for hay."

Dr. DARLINGTON says—"This grass has been much noticed in Europe as a fragrant meadow grass, but it seems rather to belong to a moist, cold, thin soil,—and is by no means regarded in the United States as a grass of superior value."—*Agricultural Botany*.

In a letter we have lately received from the author last quoted, he says—"You will perceive that I do not estimate the *Anthoxanthum* very highly. I consider it much inferior to *Phleum* (timothy or berds-grass), *Poa pratensis* (Kentucky blue grass, or June grass), *Dactylis* (cocks-foot, or orchard grass), or even *Lolium perenne* (rye grass),—either for hay or pasture."

Dr. DARLINGTON's residence is West Chester, Pa., the centre of a district which produces some of the most celebrated "Philadelphia butter." His superior knowledge of grasses, both botanically and agriculturally, is well known.

As to the *Poa pratensis*, all writers assign it a very high place for its nutritive properties, and its value as a pasture grass. Mr. EMERSON says he never heard this grass called "June grass," and could find no one around Philadelphia who knew it by that name—it being there known as "green grass." How strange! But if Mr. EMERSON should inquire in the vicinity of Boston for "green grass," he might be equally surprised to find that few people here know any such grass! Does he not know that the common or vulgar names of plants vary in different neighborhoods?

Mr. EMERSON claims to have been "the first who pointed out the sweet-scented vernal grass" as the cause of the superior quality of the Philadelphia butter. We trust no one will attempt to deprive him of the honor of the supposed discovery!

Robberies Among Bees.

As I cannot give all the details relative to bees robbing, I will venture a few hints, without all the reasons which dictate them. Bee-keepers, not understanding their business, are liable to considerable losses. Robberies are more frequent in spring than at other seasons; yet bees will often be trespassing at any time in warm weather when honey is scarce in the flowers. One of the greatest difficulties is the fact that but very few persons can tell when bees are being robbed; it is the most difficult of any thing about the apiary. Repeated, close and patient observation alone can decide at the commencement. It is generally supposed that whenever the bees are outside the hive fighting, that they are also robbing, usually; instead of this being the case, it indicates a strong colony, and a disposition to defend themselves against all intruders. Strong families are in but little danger. I never knew a successful attack on such a stock at the commencement. A weak hive or refuse honey must first get up an appetite for pillage before any serious result will follow. It being much easier to prevent a commencement than to arrest it afterwards, it seems necessary to know the real condition of all stocks, especially in the spring. Some cool morning, raise the hive till all the bees belonging to it may be seen—take a thorough view, even if the hive is to be turned bottom up; if the clusters be large, extending through nearly all the comb, not much danger need be apprehended; but should it be small, some care will be requisite. Strong stocks will be quite sure to find out weak ones, and carry off their stores. To prevent which, as far as practicable, close the entrance, leaving only room for one bee to pass at a time. Should an attempt be made, they will be able to repel it much easier than if several could enter at once. Without this precaution, (and sometimes with it,) in

extensive apiaries, very soon after a weak stock is discovered by its more powerful neighbor, the hurry and bustle attending the removal of the spoil is discovered by others, who will join in the plunder. Perhaps a dozen or more will be engaged in half an hour. Hence the necessity of knowing which the weak stocks are, to give them this advantage. It is a bad practice to allow too much room for egress, even to moderately strong families.

We will now endeavor to point out some of the indications of robbing, as even these precautions may not always prevent an attack, although it is usually all-sufficient. Now, instead of interfering with a stock (farther than a contraction of the entrance) that has already set up a defiance by combatting with their assailants, and will nine times in ten need no assistance, our attention should be given to the weak ones that may be plundered entirely without the least show of resistance. The first thing to be noticed will be an unusual number of bees apparently at work—and yet it may be the young bees that take a turn of exercise a little after the middle of every fair day; their motions when leaving the hive are so nearly the same as robbers, that an experienced eye alone can tell which it is; but this bustle of young bees will not last over an hour. When the hive assumes its usual quietness, visit it again, and if you find the commotion increased, it is time to interfere by closing the hive at once. You can then let them out towards night, for the robbers to return home; or, if there are enough to about equal those belonging to the stock, you may retain them as prisoners, and compel them to join the weak hive. All that appears necessary is to confine them two or three days; they forget home, and add considerable strength to the family. If too few are enclosed, they are killed.

All pillaging commences on our first real warm, pleasant day—seldom otherwise. If your bees have been neglected through the day, visit them after sunset of such days; robbers will work long after honest laborers are at home. To break up the habit, it is probably the least trouble to close the hive with some contrivance to admit a little air, and take them to some cool, dark place, until at least two or three warm days have passed, and the robbers cease to look for it, when it may be returned to the old stand—they will be uneasy and try to bite their way out when left out doors. This remedy is preferable to many others, such as breaking the comb, &c. Removing the hive to some other stand after the bees have marked the location, is a ruinous practice, unless taken a mile or more. Where but one stock is engaged, by changing the stand with the weak one, as has been recommended, will often have a good effect, but where a number are engaged, which is nearly always the case, it is absolutely impracticable. Spring is the only time that we are excusable for letting our bees remain weak enough to be plundered; it is then that they should all form steady, industrious habits, but, like man, when strong enough to take by force what is not their own, and the habit of living on the labor of others once established, it is seldom thoroughly eradicated, or honest labor relished afterwards.—*Country Gentleman*.

Is the First Milk Poison?

A friend informs us that Mr. H. B. Wyman, of Sidney, lost a valuable sow not long ago, in consequence of giving her the first milk of a cow after calving, and asks if it invariably causes such trouble if hogs are fed on it. We believe that it does. We one year gave such milk to a sow that was with pig. It made her sick and she cast her pigs before her time all of which were dead. We were told that such would be the result if we fed her with it, but were faithless. The next year we fed it to another under the same circumstance and the result was the same—all the pigs were dead. We found that rather costly experimenting, and have never tried it again. Last spring one of our neighbors who had a very fine sow, fed her with a pretty generous portion of such milk, she immediately became sick and came very near dying.

And now we have the above fact related of Mr. Wyman's sow as above.

We think these experiments sufficient to warrant the conclusion, that such milk is highly injurious to swine, or at least to sows. It would be rather expensive to go into a series of experiments, to prove that such food is invariably injurious to swine, but when isolated and accidental cases are followed by the same result, it is fair to consider it an established law of nature, and worthy to be put down among the scientific facts in animal physiology.—*Maine Farmer*.

Slimy Slug.---(Selandria Cerasi.)

This insect is extensively known to pomologists as an inveterate enemy to the pear tree. It frequently makes its appearance all at once, and in such numbers as well nigh to baffle the most energetic efforts to destroy or arrest them. They commence depredations, generally, on the upper surface of the leaves, eating out and entirely destroying the soft sapid substance forming the connections between the ribs, leaving each leaf upon which they locate and prey, in appearance, like a sieve bottom, or a piece of loosely fabricated gauze. Their physiological appearance bears no similitude to that of the canker-worm, being shaped nearly like a tad-pole. Their color is dun, sometimes quite dark, and their length is from an eighth to half an inch, but rarely more.

Downing speaks of this insect in his work on the "Fruits and Fruit Trees of America," page 328; and it is also mentioned by KENNICK, in his "Orchardist," page 55. Both of these authors recommend similar means for its destruction, and to them, all who are interested are respectfully referred.

A writer in an eastern paper, remarking upon the *Selandria Cerasi*, by which his pear trees had been greatly injured, says:—"I bought, a month since, a garden syringe, also a keg of whale oil soap, for seventy-five cents, and with these two articles of trifling cost, have destroyed thousands of flies, slugs, and worms, which infest plum trees, hop, melon and other vines. The soap will make even a full grown caterpillar wink, and dorange his appetite effectually."

Another cheap and effectual method of destroying the "slug" is given by the same writer, as follows:—"Take a piece of very coarse cotton cloth, say twenty inches square, and tie up the corners of it, enclosing one or two quarts of air-slacked lime, or unleached ashes therein, and make it secure to the end of a long, light pole. In the morning, while the dew is on, elevate the sack above the topmost branches of the tree, striking the end of the pole with a small mallet occasionally, and moving the pole or sack about till every leaf is finely dusted over with the lime or ashes. This operation need not be repeated, if once thoroughly performed. The time requisite for a full grown tree is not over five minutes. Pear trees should be scraped, both tops and trunks, in May or June, and washed with a mixture of soft soap, lime, and green cow manure, put on with a brush, as a very thick wash. Have a quart or two of iron scales or cinders broken fine around each tree. It keeps them healthy and prevents blight. Washing the trunks and larger branches with strong soap suds, is another remedy highly spoken of."

The above recommendations are all well enough in judicious hands; but great care must be used in *scraping*—rubbing is a better term—and in the use of lime. Old plaster from the walls of houses, broken fine, and mixed with pulverised charcoal, bone dust, guano and gypsum, should also be placed around the roots, and incorporated thoroughly with the soil.

There are few departments of farming which more liberally remunerate the farmer than fruit-growing. Our markets are but imperfectly supplied with many kinds of fruit, which are consequently in great demand, and at high prices.

There is a small "slug" which frequently proves destructive or highly injurious to the clover plant in its earliest stages of development, and which is easily destroyed by lime. A very slight dressing is said to be sufficient. It is a fact, generally well known to agriculturists of intelligence, that a very slight dressing of this mineral will, on light soils, bring in clover, a grass that makes a fine crop of valuable hay, with but very slight impoverishment to the soil. It has also been asserted that its alkaline properties are effectual in destroying the fungus or mosses which often gather on the stems and branches of the trees. Look after the slugs in season.—*N. E. Farmer*.

Farmers, Look to Your Forests.

The forests of Western New York, and indeed of all the Western States are disappearing like the morning mist from the hills. The increased rapidity of this destruction is hardly manifest, because the landmarks of the forest disappear after a few years, and give place to fertile fields.

Prominent among the enemies of the forest (although it must be admitted a friend to humanity) is the railroad. The

immense amount of timber used in the construction and management of railroads can hardly be conceived. Bridges, ties, and fuel, create such a demand for the products of the forest, that they disappear before it as they do before a devouring fire. Nothing is spared. The noble tree of a century's growth is called for, to take its place in some gigantic structure over a river or a yawning chasm; the vigorous young oaks are imbedded in the mud every two or three feet apart for hundreds of consecutive miles, there to rot away and perish within five years. Even the decaying and otherwise worthless tree is cut up into fuel to supply the never-to-be-satisfied cravings of the iron steed, that thunders in his swift career over the plains.

The demand for fuel, even in this city, to supply the locomotives alone, is perfectly astounding. A railroad train is run regularly every day out of town, over the Lockport road, for the sole and only purpose of bringing in fuel for the locomotives of the Central road. How much longer is this to last? How soon, at this rate, will the last stick be cut from all our hills and plains? And yet, the Central is only one of a countless number of the like destroyers of the forest—consuming in a day the product of a century.

Some process ought to be immediately adopted to render railroad ties less perishable, and to substitute coke or some other material for wood as fuel for the locomotive; for unless this is done, a forest tree will live ere long only in history. We would end as we have begun, with the significant warning—farmers, look to your forests!—*Rural New Yorker*.

On Blight in Pear Trees.

BY A. H. ERNST, CINCINNATI.

[No man in the Western country is better qualified to write about pears and pear culture than Mr. ERNST; and as his advice or opinions are based on his own experience and years of careful observation, much reliance may be placed on his conclusions. In the *Horticultural Review* for the past month, is an essay by him, on the diseases of the pear tree, read before a recent meeting of the Cincinnati Horticultural Society, from which we take the following extract.—*Ohio Cultivator*.]

"Long experience has confirmed my judgment that the disease [blight] is chargeable mainly to atmospheric influences. The Great Creator has, in his wisdom, so ordered it, that the vegetation, soil, and climate of every part of the globe act in perfect harmony, for the best development of the former. A departure from this state of nature is at the hazard of the health and longevity of the plant or tree, though this result does not invariably follow. The pear tree, as before observed, is not a native of this continent, but of a different hemisphere; where it grows to large size and great age, as other forest trees do. All intelligent writers, so far as I know, are agreed that the improvement of the fruit has generally been at the expense of the hardness and durability of the tree (not a necessary consequence). However, we find it so. We have imported an enfeebled race, and are exposing it to a new climate, the vicissitudes of which it is not fully capable of resisting. I care not for terms: whether you call it *Frozen Sap blight*, or *Sun blight*; whether the effect is produced by sudden and rapid changes of temperature, or an excessive summer sun. In either case it is the destruction of the natural functions of the tree, producing disease and death. The former is often tardy in its work, but the latter generally rapid and instantaneous. In the one case, it is brought to bear on the tree in a state of rest, when their juices have been expended to form wood, which is immaturesly ripened. In the other case, when the sap-vessels are extended to their utmost capacity, to supply the demands of a rapid and luxuriant growth; when this growth is in its most tender and delicate condition, the scorching mid-day sun does the mischief; the sap, by its rays, is scalded and vitiated, a chemical process of decomposition takes place, its poison is soon carried to and mixed with other portions of the tree, and the whole is often irretrievably lost in a few hours. The only remedy is, the moment that it is discovered on the limb, where this form of blight always makes its appearance, to lop off until you come to the sound and healthy wood, and thus prevent its spreading. Do not stop to hunt insects, until you have performed this work, when you can do so leisurely.

Sun blight, or *Fire blight*, is always most prevalent in a wet and hot summer. There has been but little the last three years, and we shall certainly have no frozen sap blight

to complain of next summer. This is to be attributed to rather unusually dry summers during this period; the wood having ripened well before winter set in, and the growth not so luxuriant as in wet seasons.

As a remedy, or rather a preventive to the frozen sap blight, I would suggest the shortening-in application, in September or October, to check the growth, and induce the maturing of the wood. This system is, perhaps, only applicable to dwarfs, as standards cannot well be reached. What is understood by shortening-in, is to cut back the present year's new shoots to the firm wood, say one-third or one-half of it, as the case may require, so that the sap remaining shall be expended in perfecting the wood which is left, and not be stimulated by the leaves on the ends of the shoots to continue growth. This system is also practiced to force the tree into forming fruit spurs, and thus facilitate the production of fruit. Care must be observed in the time of performing this operation. It must not be so early in the season as to cause the bursting of the lateral buds, and thereby cause a more injurious growth than it is attempted to check. There need be very little risk in this; we must be governed by the state of the season. It is better a little late than too early; when the majority of the leaves on the shoot are rigid and hard, is a suitable indication of the proper time.

Having said so much about the want of hardness of the tree, it may be asked, how I account for the trees that are to be found up and down our land, which have withstood the winter's storms and summer's heat from one to two hundred years? Before I answer the question, allow me to offer them as standing monuments against the exhaustion and insect theories. We have had some specimens in this vicinity—until the spirit of city improvements required their room, when the rude hand of the workman brought them low—whose existence was co-eval with the first impress of civilization; they remained sound, healthy, and fruitful to the last. Such specimens, it will be found, have all originated from seed, and always from a harder stock than the varieties of more modern introduction. A friend has just given me the history of one in Guilford, Conn., which he says is over two hundred years old, measuring fifteen feet in circumference at five or six feet from the ground. It is now beginning to decay, but yields a considerable quantity of fruit. He says the fruit does not compare with the best now in cultivation, but when he was a boy, more than fifty years ago, it was considered very superior.

It is to these hardy remains of ancient days, we must look for constitutions to hybridize with our finer sorts, say, if you please, the Seckel, which is as hardy as any of them, for a class of trees producing superior fruit, and, at the same time, such as we can trust out of doors."

Double Michigan Plow.

The following strong testimony as to the merits of the above plow, we copy from the *Ohio Farmer*:

Report of Committee on Trial of Plows at Tiffin, Ohio, Saturday, May 13, 1854.

Four plows were entered for trial, as follows:—The Steel Sod and Trash Plow, which won the first premium at the last Ohio State Fair, as a plow for general purposes, having changeable mould board and beam; a two, and a three-horse Cast Plow, made by Mr. SHEIBER, and the Michigan Double Plow.

The ground selected was bottom land sod, having been in pasture for several years.

The Steel Plow, entered by Mr. OGLE, did good work with the power of two horses, cutting a furrow 9 by 16 inches. The two-horse Cast Plow, entered by Mr. SHEIBER, cuts a furrow readily, 16 inches in width, but works best at a depth of 7 inches. The only material difference apparent, between the working of the plows, was that the Steel Plow required an average draft of 250 pounds less than its competitor. A careful trial of the Michigan Double Plow, by the Dynamometer, proved it to require the same power when cutting a furrow 9 by 16 inches, with three horses attached, as was required by the Steel Changeable Plow named above, and consequently 250 pounds less than the Cast two-horse Plow.

It was conceded that the Double Plow performed better work than it is possible for any single plow to perform, placing the sod, and all trash, in the bottom of the furrow, and covering it to a good depth with well pulverised soil, ready prepared, without harrow or clod-crusher, for the seed.

An important fact was brought to light in regard to the draft of the Double Plow, when compared with a single two-horse plow; and settles the question as to whether it is an implement that can be propelled by two horses or not.

All the plows entered proved themselves capable of doing excellent work—such as any farmer might profitably pattern after; but in view of the facts briefly named above, the Committee unhesitatingly pronounce the Michigan Double Plow the best plow, for all purposes, on the ground.

G. SPRAGUE,
WM. LAMBERTSON,
SAMUEL SMITH,
Committee.

Tiffin, May 13, 1854.

Varieties of the Currant.

Among the smaller fruits, the currant is entitled to pre-eminence for its intrinsic usefulness. It will grow on almost any soil, bears without fail every year, and yields a large crop. It is a palatable and wholesome fruit, which comes at a season when others are comparatively scarce, and continues a long time. Its value for jellies is known to every housewife. It affords a good wine at little cost. The black currant possesses a value for the production of a medicinal wine, which is not appreciated. A gentleman in this state formerly made considerable quantities, which were exported to the southern cities and the West India islands, where it was much esteemed for its efficacy in the prevention and cure of summer complaints.

Viewed in reference to all its good qualities, the currant is not generally so highly prized as it ought to be. A late number of the *Horticulturalist* contains an article by JOHN SAUL, of Washington, D. C., which comprises much valuable information in regard to this fruit, especially relating to the characteristics of varieties. We copy the following from Mr. SAUL's communication, which may be of advantage to our readers.—*Boston Cultivator*.

1. *Champagne*.—In foliage, wood, and habit, this belongs to the Red class. Color delicate rosy-pink, and would appear like a cross between a Red and White, from the color of the fruit; but wood, foliage, and growth, set it down at once among the Reds. This variety is scarce in England. The bunches are small, yet it is much in demand, where known, for preserving.

2. *Red Dutch*.—"Bunches short. This is a sweet, rich, and good Currant." Thus has it been described by Mr. RIVERS, in the last edition of his catalogue. When we consider the many good qualities of the Red Dutch, it is a free grower, a good bearer, a fair sized bunch, with large, high colored, rich berries; and above all, for jams and jellies it has no superior, if it has an equal. It is one of the best Red Currants.

3. *Red Dutch, Long-Bunched*.—This a fine long-bunched, large-berried variety of the above. It is later, and rather more acid.

4. *Red Grape*.—A very fine long-bunched variety with large berries, but very acid.

5. *Knight's Early Red*.—Bunches and berries about medium size, moderately sweet. A very good early Currant.

6. *Knight's Large Red*.—Bunches long, berries large, medium season. A fine large Currant, but inclined to be acid.

7. *Knight's Sweet Red*.—A really good, sweet, Red Currant, with long bunches and large berries.

8. *Putner's Large Red*.—In this we have a very fine, long bunched, large-berried Currant; a vigorous grower and an abundant bearer. It is extensively cultivated in some localities in England.

9. *Pitaston Sweet Red*.—Bunches short, with berries below medium size. This is the sweetest of all the Red Currants. Raised by Mr. WILLIAMS, of Pitaston.

10. *Victoria, Ruby or Houghton Cattle*.—The bunches are longer than any other variety. A free grower and an abundant bearer. Perhaps on the whole the finest Red Currant known.

11. *Red Striped Leaved*.—A poorly variegated variety of a bad Red Currant. Unworthy of culture, either for its foliage or fruit.

12. *Black Bang-up*.—A good variety of Black. Bunch and berry nearly if not quite as large as Black Naples.

13. *Black Naples*.—Considered the best of the Black Currants, and I think deservedly so. Bunches of fair length. Berries large.

14. *New Dwarf Black*.—This variety promises well. It is of more dwarf habit than the other Blacks, and in bunch and berry equal to Black Naples.

15. *Green Fruited Black*.—Wood, foliage, and growth, is that of the Black; while the fruit when ripe is green. In flavor it will not approach the other Blacks. It is a most singular variety, but is worthless as a fruit-bearer.

16. *Variegated Leaved Black*.—Here again we have a badly variegated foliage, and a poor fruit. Not worth cultivating.

17. *Old White*.—This variety now is seldom met with, the larger varieties having taken its place. The bunches are short; berries small, amber-colored or nearly so, and of higher flavor than any of the other Whites. This should be borne in mind by the raisers of new varieties.

18. *White Dutch*.—Bunches of fair length; berries large, deep in color, and of high flavor. This is a very fine variety; every point considered, perhaps the finest of the White Currants.

19. *White Grape*.—Bunches long; berries large, pale, not quite as high flavored as the White Dutch. As a general rule, the closer a White Currant approaches in color to amber, the sweeter and richer in flavor it is, like a finely ripened Muscat Grape.

Some of the finest Currants I have ever seen grown were in the Isle of Wight. In Guernsey and Jersey they grow equally fine, more particularly the Reds and Whites. The soil was a strong, adhesive loam, resting on clay, but a well drained bottom. The climate is very genial, and the fruit is not only large and well colored, but finely ripened. In the market gardens about London they are excellently grown and managed somewhat in this way: They are planted in lines at given distances apart—say twenty or thirty feet row from row, and three or four feet apart in the rows. The ground, which is naturally good, is highly manured, and cropped between the vegetables. The plants, after the first year or two—when they commence bearing—are pruned very hard. Perhaps it will be better understood what I mean by hard, when I say the greater part of the young wood is thinned out, and what is allowed to remain is shortened back to two or three inches. By this means the trees are always kept short, never attaining a greater height than two or three feet. The bushes being low, with well-thinned out and shortened branches, they shade little or none of the ground, and are cropped up to the bush. These strong manured and well pruned trees produce magnificent fruit, and in great abundance, well remunerating the market gardener for his trouble.

The Height of a Colt.

Mr. James R. Martin, of Kingston, Kentucky, gives out the following upon this point, which is certainly novel, and perhaps it may be true:

"I can tell you how a man may know within half an inch, the height a colt will attain when full grown. The rule may not hold good in every instance, but nine out of ten it will. When the colt gets to be three weeks old, or as soon as it is perfectly straightened in its limbs, measure from the edge of the hoofs to the middle of first joint, and, for every inch it will grow to the height of a hand or four inches when its growth is mature. Thus: if this distance be found sixteen inches, it will make a horse sixteen hands high. By this means a man may know something what sort of a horse, with proper care, he is to expect from his colt. Three years ago I bought two very shabby looking colts for twenty dollars each, and sold them recently for three hundred dollars. So much for knowledge how to guess at a colt."

The Cashmere Goat.

The editor of the Farmer and Planter says: This goat, which has recently been introduced into the United States from Turkey, by Dr. Davis of S. C., is of larger size than our common goat, is as easily kept and by this experiment is proven to be admirably adapted to our climate. Its great excellence is, that instead of a coat of hair, it has a fleece of fine silky appearance, from 4 to 6 inches long in one year's growth. It is from the fleece of this goat the celebrated Cashmere shawls from China are made. Besides its beautiful silky appearance, textures made from the fleece of this goat outwear all known substances. Stocks made of it have been worn six winters without material injury. They can be shorn annually, and the average weight of each fleece is about 4 pounds, being in value to the united flocks of 16 Merino sheep annually. Dr. Davis considers these so well adapted to the climate, and so valuable that he refuses to sell full blood ewes at all, but sells the bucks from \$100 to \$200 each. He is liberal, however, and has given several to friends.

The Strawberry Question.

J. L. DARLINGTON :—As facts are always more important in the settlement of disputed points than mere arguments, we may state as having some bearing on the changeableness (so asserted) of the strawberry blossom, that one year ago we planted out a large bed of strawberry plants, selected *indiscriminately* from one of the most productive strawberry patches of a somewhat celebrated grower near Philadelphia, who is rather famed in the markets for the fine size and productiveness of his crops. Our object was merely to grow the fruit for market, and we did not care about any particular varieties, being well aware that the truckers near the city do not keep them very select. We sent a man to get them, who had seen the previous season the very extraordinary yield from the very piece of ground where he selected our plants.

Our ground was well manured and otherwise prepared; they grew well, and the present spring when we expected a very large crop are disappointed in the bed proving nearly barren. From nearly an acre of ground hardly half a bushel of strawberries will be obtained. The blossoms proved chiefly staminate with some hermaphrodites. Now we think this must be owing to one or two causes: 1st. That from change of soil, location, or other *unknown* causes, the strawberries have changed their sexual character after removal, or else that the man who procured them, *by chance*, selected several thousand unproductive plants from a very large productive bed. That such *only* should be selected from a place producing three to five thousand quarts to the acre, and where an *unproductive* plant could hardly be found if closely hunted for, is rather an improbable assumption.

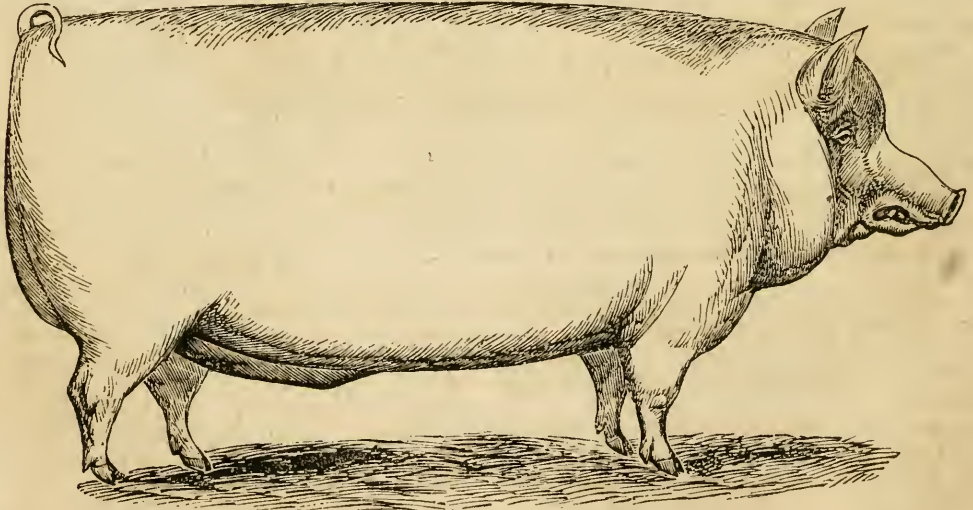
My opinion is that the strawberry *does* change its sex-

ual character, that it is liable to become staminate, pistillate or hermaphrodite, and although I do not believe, as Mr. MEEHAN has been charged with asserting, that this can be done at will, I do believe that it sometimes happens from causes beyond our control, and for reasons which we cannot understand. I often hear of disappointment similar to my own, in a new plantation of strawberries, where fruit was expected and none found, and how are we otherwise to account for it. I do not care what the books or learned societies may say, how unscientific it may be called, or how much it may militate against *Princely theories*, I am apt to believe what I see and know from actual experiment. One other similar case now occurs to me: A friend of mine, two or three years ago, visited a bed to procure plants for setting out, where the owner had taken unusual pains to have a staminate plant about every fifteen feet apart from the pistillates, and by careful watching to prevent the runners from these extending themselves. The new bed was set out, and behold! at least nineteen-twentieths were staminate, hardly a pistillate plant among them, and the bed of course entirely unproductive, and had to be dug up. I believe, whatever the wise men may say to the contrary, that the strawberry plant cuts strange freaks sometimes, and is no more to be relied on than a fickle young lady who does not know her own mind, and it seems no especial cause of wonderment. The normal character of the strawberry is that of a *perfect* flower; All the present variations are but types of the original, varied according to circumstances, and all have a tendency to change and revert back to their original character. In England the distinctions we make are said to be unknown.

A PRACTICAL GARDENER.

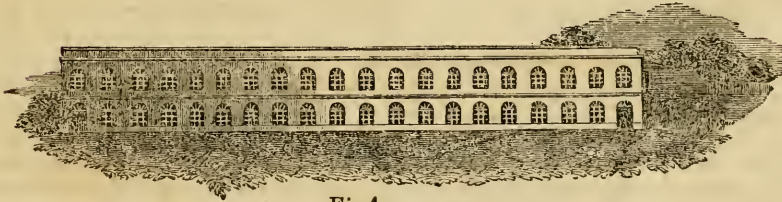
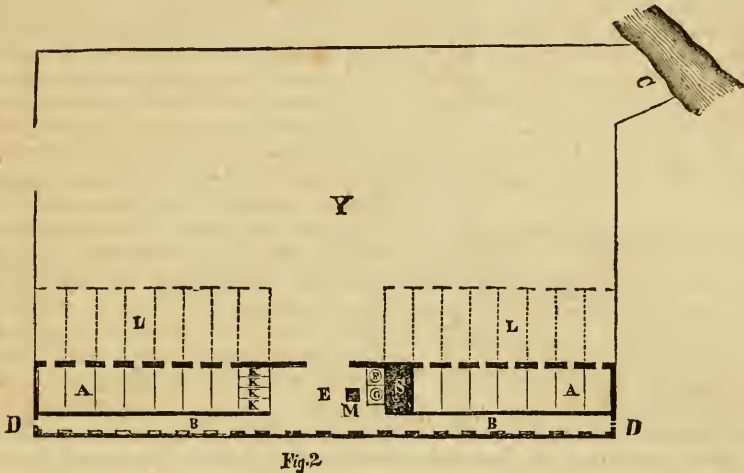
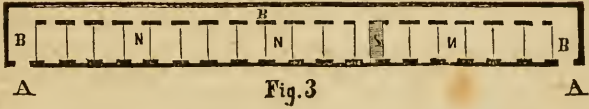
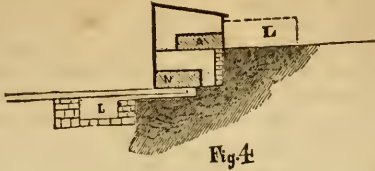
Philadelphia county, June, 1854.

[We have been favored by Mr. PAGE with the accompanying engravings. We give his description of the Pig-gery, but as he has sent us none of the pig, we will let the noble animal speak for himself:]



IMPROVED SUFFOLK BOAR,

Bred by Dr. MORTON, Etherton Farm, West Needham, Mass., for which the First Prize was awarded by the Norfolk Agricultural Society, at the Exhibition, 1853.



MORTON'S PIGGERY, ETHERTON FARM, WEST NEEDHAM, MASS.

DESCRIPTION OF PIGGERY.

Figure 1 represents a front perspective view of the whole building and pigyard. The building is 125 feet long by 14 wide, with open or outer pens in the rear, in the second story, opening into a yard. It is of two stories, with glass windows to each pen, fronting the south, and is constructed on the south side of a hill, the lower story being built on an excavation made for that purpose, whereby the pens in that story (which are breeding pens for winter or early spring pigs,) are protected from the cold northerly winds, and a suitable temperature maintained in them for breeding in the winter when desired, without the use of artificial heat, by the rays of the sun shining through the glass of the windows. By this manner of construction, in ordinary winters,

there will be found to be sufficient heat maintained for breeding; but, if the winter should be unusually severe, artificial heat may be employed.

Fig. 2 is a plan of the upper story of the building and yard behind. A are the inner pens, and L the outer yards, the latter are in the yard or enclosure Y. Lot Y has a large shed to protect the manure, and communicates with a stream of water. The pigs enter the outer yards from the rear, and from thence to the inner pens, and, if desired, can be secured there by sliding doors which are provided to each pen, though not represented in the drawings. The passage B is four feet wide, and extends the whole length of the building. This intersects the entrance at the rear of the building, and serves as a convenient means of attending to the pigs, feeding,

cleaning the pens, &c. E is the swill room, which is 16 feet long, in which is contained a furnace and boiler, a swill tub G, or reservoir into which the boiled provender is placed, a series of bins K, which are for holding different kinds of grain, and a place for firewood. Cut through the floor of the swill room is a hatchway M, which is for emptying the swill from the reservoir or boilers to another reservoir in the lower story, where it will be convenient for feeding the breeding sows below. S denotes stairway communicating with the upper and lower story. D, D, end doors to enter passage B, B, B.

Fig. 3 is a plat view of the lower story, or breeding pens. N are the pens which have no yard pens. And the passage B, B, B, extends the whole length of the building at the rear side, instead of at the front side, as in the upper story, so that the pigs get the full benefit of the rays of the sun through the windows. Those lower pens are entered at the doors A, A, from the front and through the passage B, B, at each end of the building, the pigs entering through either of these doors, pass into the long passage B, and enter the pens through doors at the rear. S represents the stairs below, aside of which is the reservoir to receive food from the trap door M.

Fig. 4, a vertical cross section of the building. A are the upper pens, and L the outer yards. N, the lower or breeding pens. The floors of both stories slope so as to drain off the surplus liquid, and render the stalls or pens more easy to be cleansed. These slope in opposite directions; the lower one to the front, and the upper one to the rear of the building, as represented in Fig. 4. I is a reservoir located in front of the building, with suitable conducts leading from the building for draining the lower or breeding pens. The upper pens are drained from the rear side.

Mulching Trees.

MR. DARLINGTON:—Permit me to thank you for the article in your June number under the above title. I believe it has saved me a number of newly transplanted trees.

For several years I have been trying to raise some choice fruit trees, as well as some shade trees, around my dwelling, but whether I procured the latter from the woods or the nurseries they invariably died in June or July. My fruit trees usually lived a little longer, but eventually died also. I ought to have stated that in this neighborhood, the red shale rock lies near the surface, and we labor under increased difficulties in transplanting on that account. But to proceed. Discouraged, but not desponding, at my bad success, I set out about a dozen plum, cherry and quince trees last March, and several thrifty sugar maples and horse chestnuts a few weeks earlier. They all opened finely, and showed signs of growth until about the beginning of this month, when the hot weather seemed to dry up the leaves, shrivel the bark of the twigs, and in a few days they gave unmistakeable signs of decay. One of my neighbors, on hearing me express my regret at the expected loss, told me that he had observed an article in the Farm Journal on the subject. He kindly lent me the Journal, and I set about following its directions. In less than three days I

perceived a greener hue in the leaves of my young trees; in a week there was no mistaking the fact that an improvement had taken place, and now when the second week has passed I have little doubt that I shall be able to keep them alive. In addition to covering the ground with manure for some distance over the roots of the trees, I also shaded the trunks as the few leaves were inadequate to do it. I also, as the ground was dry, continued to water each tree, but less copiously than before—putting on just enough to keep the manure well moistened. Yours, &c., Y.

Montgomery co., June 18, 1854.

Quackery in Agriculture.

MR. DARLINGTON:—In my intercourse among my fellow farmers, I often hear them denounce “book farming” in no measured terms; esteeming the suggestions and information contained in agricultural works as a kind of farm quackery, never to be read, much less to be followed. My experience has taught me that although there are questionable articles admitted into even the best of our publications, I scarcely take up one of what I esteem the poorest class—the theoretical Journals—that I do not find to contain some valuable hint. But is “quackery” in farming confined to agricultural works and their readers? I believe not, as certainly as I believe humbugs are not confined to agriculture. Every profession connected with animal or vegetable life contains its quacks. They seem as extensive as humanity itself. Almost every newspaper contains flaring advertisements of medical quacks, while every county town has a Water-Cure, a Thompsonian, a Homeopathic, or a Witch Doctor, to say nothing of the number of half educated but legitimate sons of Esculapius himself. Prevalent as is medical quackery, it cannot equal in number the quacks in agriculture. How many thousands are there in this State who “plant and sow” by the signs of the moon? And how many more are there whose system of culture is as fatal to the soil, and to their own pockets, as the deadly nostrums of the would-be-doctors to the human subject? I take it that any farmer is an agricultural quack who undertakes to give advice, or practice that about which he knows nothing, whether it be in following some untried, hair-splitting theory, or absurd superstition.

The science of chemistry is doing much for agriculture, the practical observations of practical farmers are doing more, but publications which contain the information afforded by *practical chemists*, and the experience of the best practical farmers, are of still greater benefit, as they lay the information thus collected before thousands, which otherwise would be limited to small localities.

Farmers, as well as others, have yet to learn much, and I can conceive no better way for them to acquire a thorough knowledge of their business than to observe the practice of others, and contrast it with their own; to discard what is not advantageous, but to adopt what is preferable to their own mode of procedure: and, as few of us have the opportunity of personal observation to much extent, to subscribe for agricultural publications that contain the experience of the most successful farmers of the country. H. B. S.

Strawberry Question.

In the Farm Journal for May (page 162), we acknowledged the receipt of a small volume entitled "Grape Culture and the Strawberry," and intimated an intention of copying from it the report of a committee on the "Strawberry Question" in our next (June) number, but it was found necessary to postpone it until the present. The following is the report:

The Committee to whom was referred the investigation of the SEXUAL CHARACTER OF THE STRAWBERRY, beg leave to report:—

That they have endeavored to discharge, in the most thorough manner, the duty imposed upon them, by investigating, with note-book in hand, the condition of various kinds of Strawberries, at the different stages of their progress, from the blossom to the ripened fruit, so as to observe any peculiarities of inflorescence, and watch the consequent effects upon the fructification. As an evidence of the fidelity with which your Committee have discharged their duty, allow them to say that this Report is based upon more than two hundred and seventy recorded observations, which were made with critical accuracy, and as extended, in almost every instance, as it were possible to render them; hence it may be safely assumed, that they have now sufficient data and abounding testimony to prove the postulates they intend to lay down in this report. The whole subject has been so ably and so frequently explained to this society and community that there is nothing new left for your Committee, who only reiterate truths well established and generally admitted among us.

After carefully collating and reviewing the facts which they have observed and recorded, the Committee present the following *conclusions* or *postulates*, which have been deduced from their united observations:

1. That there are many different varieties of the Strawberry, which are characterized, in part, by the foliage, pubescence, mode of growth, and fruit, and, also, by their *inflorescence*.

2. That the varieties in *inflorescence* (the most important to the cultivator) consist in the greater or less development of the stamens and pistils, respectively, upon which are based our terms and classification, "*staminate*" and "*pistillate*," or, more familiarly with the mass of cultivators, *male* and *female*.

3. That these classes are *permanent* aberrations from what the great Linnæus considered the normal condition of this genus of plants, as of its natural family *ROSACEÆ*.

4. That nearly all botanists (and among them our most enlightened modern writers) have overlooked the important error of Linnæus, and have simply copied after him in their descriptions of the strawberry, without verifying for themselves; while a plain, unlettered market gardener, but a practical and observing man, discovered the important fact, that while in some plants the flowers are apparently perfect in both sets of organs, one set is really defective, to a greater or less extent, and, in others, the flowers which we style *pistillate*, have the stamens so imperfectly developed as entirely to elude a casual observation, and only to be discovered by a critical observer, and then, in most instances, found to be wholly abortive.

5. That no *pistillate* plant will bear a perfect fruit, if kept entirely apart from *staminate* varieties.

6. That no *staminate* plants, which we have yet seen, can be depended upon by the cultivator as heavy bearers, though from some unknown causes, the pistils may be so well developed as to be followed by a good crop, some years, and in some situations.

7. That there is no such thing yet known to us as a perfect flowered strawberry plant, in which the blossoms will *all* be *uniformly* so well provided with both sets of organs as to be followed by *perfect* fruit every year.

8. That the only method of producing this delicious fruit, with any degree of certainty as to the result, is that now adopted by our intelligent cultivators, namely: To set out plants of both of the sexual classes, the relative proportions of each to be determined by experience, selecting such *pistillate* kinds as may prove of good size and flavor, and only so many *staminates* as may be found necessary for impregnation.

9. That the runners from a strawberry plant are as integral portions of itself as the branches and buds of a tree; and, therefore, that we may always propagate any variety by this means, with as much certainty as we perpetuate any variety of apple, or other fruit, by grafting or inoculation.

There are great differences in the productiveness of the *staminates*, from those which are entirely barren to those which may bear tolerably well, or even very well, under peculiar circumstances; but our cultivators have been unable to ascertain any regimen, soil, or treatment, that will insure a full crop of berries upon any *staminate* variety, in a succession of years; and they, therefore, condemn them as unworthy of cultivation, except as *impregnators*, and for this purpose recommend the selection of those which are remarkable for the size and flavor of their fruit, time of flowering, hardness, etc.

Since the great "*Strawberry Question*" has attracted so much attention, very many persons, anxious to verify for themselves the new doctrine, have tried the experiment of planting *pistillate* kinds separate and apart from all others. These efforts have been carried on with more or less care and precision; but the results, in all cases that have come within our notice, confirm the Committee in their fifth conclusion, *that no pistillate plant will bear a perfect fruit, if kept entirely apart from staminate varieties*. And they are perfectly satisfied that where any person thinks he has met with a different result, he must have been deceived by overlooking some male plants in the bed, or near it.

The Committee, having examined a great many new seedlings, which have not yet been tested sufficiently, have observed this fact, that, admitting them to be equally divided in their sexual character, the majority of the *staminates* will prove to be entirely barren.

All those who would enter upon the business, or try experiments, are advised to commence by impregnating the best and largest *pistillates* with the largest and most highly-flavored *staminates*; keep each plant and its runners entirely separate from all others: test them well before exhibition, and lastly, if they be not decidedly superior to the kinds already grown, in size, flavor and productiveness, or, unless they have some peculiarity of lateness or early ripening, it will be best to say nothing about them; for we have *several kinds* already that are worth raising, and are not confined to a selection of four sorts, as some suppose, namely, Hovey's *Pistillate*, Boston Pine, Wood and Searlet, the three latter of which are here condemned as unproductive, being *staminates*.

A. H. ERNST,
GEO. GRAHAM,
S. S. JACKSON,
JOHN LEA,
N. SHALER,
S. MOSHER,
J. A. WARDEN,
Committee.

Domestic Recipes.

RICE BALLS.—A few days since we sat at the table of a Connecticut lady, who has fortunately been rightly *educated* to look upon the care of her own household affairs and the proper instruction of her own children, as a higher and nobler occupation than nursing poodles and lap-dogs, or pursuing the gay baubles of fashionable life. We need not say that her house was in order, and that under her superintendence food was prepared and the table arranged to please both eye and taste. But we did not commence to write this about household arrangements—for, although we have an eye upon such matters wherever we go, we leave the subject to our fair correspondents who have promised us aid in this line—we now only wish to give what we call *the* best method of cooking rice to our taste. At our request, the lady above referred to, furnished us the following recipe, which is simple and *good* we know: Boil rice until it is soft, and while warm make it into cakes or flat balls. Dip these balls into a beaten egg, and then roll them into Indian meal till thoroughly coated. This done, fry them in lard, which is better than butter for this purpose. Serve them with sauce, or with butter or cream and sugar. Try them, ladies, and in return for this recipe send us one of your best.—*Amer. Agriculturist.*

A GOOD WAY OF PUTTING DOWN CARPETS.—A foreign correspondent of the Newark Advertiser in writing from Florence says:—Here iron rings are fastened in the floors when the carpets are laid, and they have large hooks in the binding, for which these rings are eyes; so that there is no taking out and nailing in of tacks, and carpets are raised and laid as noiselessly and easily as bed-covers.

TO DRIVE AWAY RED ANTS.—Sprinkle the floor, shelves, &c., which they infest, with fine shore-sand—from a saltwater beach if possible. A correspondent says this is true.

TO PRESERVE BARBERRIES.—To one pound of the berries add one pound of sugar, a pint and a half of molasses; and simmer them together half an hour or more, until they become soft.

CALF'S FOOT JELLY.—Boil four feet, nicely cleaned, in a gallon of water, till reduced to one quart; strain it, and when cool take off the top. In taking out the jelly avoid the settlings. Add a half pound of sugar, the juice of two lemons, and, if you please, the whites of four eggs to make it clear: boil all together a few minutes, and strain it through a cloth.

CURRENT JELLY.—Place a jar of currants in a kettle of boiling water till the currants become wilted; then squeeze them through a cloth. Add a pint of sugar to a pint of juice; boil it slowly till it becomes ropy. It should be frequently stirred and skimmed while simmering.

LEMON CAKE.—Take one tea cup of butter, and three of powdered loaf sugar; rub them to a cream; stir into them the yolks of five eggs well beaten; dissolve a tea spoonful of saleratus in a tea cup of milk, and add the milk; add the juice and grated peel of one lemon, and the whites of five eggs; and sift in, as light as possible, four tea cups of flour. Bake in two long tins about half an hour. It is much improved by icing.

CUP CAKE.—Rub to a cream three cups of sugar, with

one and a half of butter; stir in three well beaten eggs, three cups of sifted flour, and rose water, or essence of lemon to the taste. Dissolve a tea spoonful of saleratus in a cup of milk, strain it into the cake, and add three more cups of sifted flour: bake immediately in cups or pans.

MEASURE CAKE.—Rub to a cream two cups of sugar and one of butter; stir in four well beaten eggs, a grated nutmeg, and three cups of flour; stir it till just before baking. Bake in cups or in pans.

GOOD FAMILY CAKE.—Take two pounds of flour, half a pound of butter, half of white sugar, one gill of yeast, half a spoonful of mace, or other spice, to your taste. Mix well half your flour with the yeast and milk, and let it stand till perfectly light. Add the butter, eggs, sugar and spice together, and stir in the remainder of your flour; then gently pour this to the first mixture; let all stand till perfectly light; then bake it in pans.

JUMBLES.—Rub to a cream a pound of sugar, and half a pound of butter; add eight well beaten eggs, essence of lemon or rose water to the taste, and flour to make the jumbles stiff enough for rolling out. Roll out, in powdered sugar, about half an inch wide and four inches long, and form them into rings by joining the ends. Lay them on flat buttered tins, and bake in a quick oven.

PRESERVING FLOWERS AND FRUIT.—Dip them in a solution of gum arabic and water two or three times, waiting a sufficient time between the immersions to let them dry.

TO TAKE INK OUT OF MAHOGANY.—Mix in a teaspoonful of cold water, a few drops of oil of vitriol; touch the spot with a feather dipped in the liquid.

FLY POISON WITHOUT ARSENIC.—The following preparation is much used in Europe for the destruction of flies:—Quassia, eight parts; water, five hundred parts; molasses, one hundred and twenty-five parts. Boil the quassia and water ten minutes: strain and add the molasses. The preparation can easily be made by any one. Flies are attracted by this and soon killed.

Tomatoes and Lima Beans.

We commend the following paragraphs, which we find in the *Working Farmer*, to our gardeners. In this latitude the per centage is too high, but approximates the truth:

During the early part of the growth of these crops the surface of the soil should be frequently disturbed. When tomatoes have set their fruit, they should be shortened in, and it may be deferred until the largest of the fruit is of half size, when it may be readily observed that ninety per cent. of the fruit is within eighteen inches of the ground, while ninety per cent. of the vine or bush is beyond that distance. The vines, therefore, should be trimmed in within half an inch of the tomato nearest the end of each;—this will admit sun and air freely, and although ten per cent. of the tomatoes that might have grown will be taken away, still the remaining portion will be greater in weight and measure, than if the vine had not been shortened in. Tomatoes are also several days earlier by this treatment, and therefore bring a much higher price in the market.

Lima bean vines are usually suffered to wind them-

selves around a pole twelve or fifteen feet high, and before the vine reaches the top of the pole, some beans are already of a size to be pulled near its bottom. Lima beans should be pinched off when $5\frac{1}{2}$ feet high, and they will readily throw out side shoots well filled with pods, which will ripen before frost; whereas, when not shortened in, the beans on the upper ends of the vine cannot perfect themselves in time to be saved. It is unfair to expect a gill of sap to travel through forty feet of vine wrapped around a pole, and make a perfect bean at the extreme end of it. The immense amount of imperfect and half formed vine through which it has to travel, causes too great an evaporation of moisture before arriving at its point of destination. The Lima bean with us is an exotic, and its behavior during growth is very different from its habit where native, and therefore the mode of cultivation, as with the tomato, peach, &c., must compensate for these differences.

For the Farm Journal.

Lime in Agriculture.

MR. EDITOR:—Some years ago while listening to an address delivered by Mr. RANKINE, he stated that of all the mineral substances that have been employed to improve the soil, *lime* is the most important. All our lands seem to be susceptible of great benefit from it; and in some parts of this district, more especially in Chester county, it can be obtained on such terms as to create a probability that it may be profitably applied. The theory of its modes of action involves chemical principles, which it would be beyond my limits to attempt to explain. I may briefly state, however, a few facts connected with its various effects.

As stated by Mr. RANKINE, it renders stiff and tenacious soils more pliable, and light and sandy soils more retentive of moisture. It decomposes all vegetable matter in the soil so as to supply the nourishment of living plants, and it makes the nutritive matter itself more salubrious. These last effects may be seen in familiar instances. If a little quick lime be added to a heap of leaves or rotten wood, it is soon reduced to black mould; and if a little be sprinkled on the rank spots, which get up in pasture fields and are rejected by cattle, they will shortly be eaten down. It is not more active in rendering the vegetable matter of the soil available than it is in giving vigor to the plants and excellence of quality to the grain, and on no grain are its effects so remarkable as on wheat. A farmer who having a great command of manure, thought that he might dispense with lime. He raised by measure, it is said, as many bushels of wheat on the acre as his neighbor, but it was coarser in quality and therefore lighter, and in the markets great discrimination of price was made on account of quality; so that he lost in two ways. He had at last recourse to lime, and of course with complete success.

In cold and humid climates it is not considered that old turfy lands can be profitably broken up without lime. The straw will be abundant, but the grain light and un-matured, but if treated with lime these lands are the most productive. In our climate the vegetable matter has not such a tendency to become peaty and inert, and lime may not, to such a degree, be necessary for the pur-

pose of promoting decomposition; but it would in every case make our wheat of better quality. In our best lands it would give health and vigor to the straw and render it less obnoxious to the diseases to which luxuriance is exposed, and it would make lands, at present too rich for bearing grain, capable of producing healthy and productive crops. From what has been said, it will follow that it would be improper to apply lime to impoverished land, unless at the same time accompanied with manure, without which it would aid in the robbery of the soil. For other reasons it should not be applied to wet land.

In calculating the expense of liming, the permanency of its effects should be taken into account. If a proper dose be administered there will be no need of a repetition of it for fifteen or twenty years. What the dose should be must depend on the quality of the land, but, generally speaking, it should be increased as the land is more adhesive, or as it is more filled with vegetable matter. There are not many soils, probably, that would be benefitted by less than 100 bushels to the acre. The lime may be allowed to lie till it falls down into a state of flour, and then be spread out when the soil has been previously well pulverized.

J. S. G.

Media, June, 1854.

For the Farm Journal.

Guenon's System.

MR. EDITOR:—The sweeping denunciation of Mr. GOWEN, declaring Guenon's system "foolish," induces me to address him once more. Some years ago, I recollect, Mr. GOWEN showed himself rather vehement in our polemics through the "Farmers' Cabinet." I hope such will not be the case in the present instance. Your Journal has so far shown a just liberality in allowing the *pro* and *con* to be fairly discussed, and which, indeed, is the only true means to sift out the true merits of any question in controversy.

I am a believer in Guenon's system, notwithstanding such belief may consign me, in Mr. GOWEN's estimation, to the same "foolish" category with other advocates of the doctrine. So far as I have studied Guenon, it entirely corroborates my experience that there is a superior class of cows which may be known by *peculiar marks*. These marks are not confined to any particular breed, but may be found in every race of cows. Neither do they appear to be hereditary, but will appear in intermediate generations of the same stock—like a man of genius springing up from an obscure corner, while perhaps his posterity will not inherit a single ray of his intellect. I have no belief that the superior qualities of a good cow are concentrated in a Durham, a Hereford, an Ayrshire, an Alderney or a Holstein, but that good and bad cows are found among them as well as among others. This is my individual belief, based upon experience, yet I do not feel justified in calling gentlemen "foolish" who believe in the superior quality of the above named races. Mr. GOWEN himself can throw light upon this point. Some twelve or more years ago he imported the famous cow "Dairy Maid." He can tell, perhaps, whether all her posterity have inherited the extraordinary qualities of that celebrated cow.

In commenting upon the character of the committees

in France, which introduced Guenon to the notice of the public, I observe that Mr. GOWEN speaks very contemptuously of the chairman of one of those committees, whom he styles "a horse doctor, yeleft a veterinary surgeon." Is Mr. GOWEN aware that in France a veterinary surgeon is a man of respectability, and stands upon the same footing as the medical practitioner—both being well versed in that science which has of late so much unveiled the springs of animal life, viz: comparative anatomy? Notwithstanding Mr. GOWEN's sneers at "horse doctors," I imagine the world will have some respect for the opinions of men whose anatomical knowledge has divulged facts of which he is not likely to be very conversant.

The suggestions I made to the State Agricultural Society, in a former communication, to establish a veterinary college, which, I repeat, is so much wanted, that it would be of more immediate benefit to the farmer than the proposed farm school, which will be on so small a scale, from present prospects, as to confine its usefulness to rather contracted limits.

H. SHUBERT.

Bethel, June, 1854.

For the Farm Journal.

Lice on Chickens.

MR. EDITOR:—Your correspondent P. G., in the June number of the "Journal," enquires "how lice on chickens can be destroyed," and although the subject has long since been exhausted, I will give him my plan, which, if properly adhered to, will effect the object desired. In the first place I put into the box intended for hatching, a layer of ashes, either leached or not, three or four inches deep, and when I take the hen from the nest I give her a thorough greasing with lard over the lower part of the body and under the wings. On covering the chicks enough lard is imparted to them for all practical purposes. I again repeat the dose in about ten days, which is generally sufficient.

After taking the hen from the nest, I am also particular in destroying the straw upon which she may have set. Other precautions are also necessary. White washing the roosting department, sprinkling lime under the roosts, greasing the chickens if they become droopy, and greasing the *roosting poles* with lard, or some rancid grease, occasionally I have found highly essential, and if properly and rigidly attended to, I think our friend P. G. will have but little room to complain of the depredations of vermin on chickens. I have raised as high as 130 in a season in a yard not exceeding 20 feet square, and have found no difficulty in mastering the vermin when I set myself about it. Yours truly,

Muncy, Pa., June 7th, 1854.

W. P. J. P.

A Valuable Cow.

DANIEL MILES, residing in East Marlborough, Chester county, has a cow of native breed, weighing nett four hundred and fifty pounds, that produces forty-four pounds of milk per day, and from one week's milking recently made sixteen pounds of marketable butter. This large yield was not the result of heavy grain feeding, but simply from his pasture fields, and there is no reason to suppose she will produce less per week for many weeks to come. Indeed Mr. MILES confidently

expects, when the pasture is at full maturity, that she will increase rather than diminish her yield. We hope he will keep a record of the produce of this cow during the season, and let us have it to lay before the readers of the Journal.

For the Farm Journal.

Tax on Breeding Stock.

MR. EDITOR:—I notice in a late number of the Journal that Mr. DANIEL BAIRD, of Mercer, is making objections to that part of the resolutions relating to the levying a tax on male stock that are kept to breed from, which passed our Agricultural Society, and recommending in its place that inducements be held out by the State and County Agricultural Societies, to townships and clubs to purchase bulls, rams and boars of good breeds. In reply to Mr. BAIRD I would say that it is the very object I had in view in bringing that resolution before our Society. I can't conceive that there can be any inducement for a person to purchase good seed stock at high prices until we have a law that will remove our scrubby animals. The more I think on the subject the stronger I am convinced that the levying a suitable tax on all male seed stock, would have the effect of soon replacing inferior animals by those of superior breeds and quality, and would prove to be a very essential advantage to the farming interest, and secure to the treasury a handsome fund. In our county there would be needed about eighty bulls; put a tax on them of ten dollars each, it would bring into the treasury a fund of eight hundred dollars annually; it would require about forty stallions, a tax on them of fifteen dollars each would amount to six hundred dollars; about eighty boars would be required, a tax of five dollars on each of them would amount to four hundred dollars; and one hundred rams taxed two dollars each would amount to two hundred dollars. These sums put together show an amount of two thousand dollars, which would be secured to our county treasury annually, and if carried to all the counties in the State, it would secure to the treasury of the Commonwealth about one hundred and twenty thousand dollars annually—and I think it would be very acceptable there, at least till we get rid of our State debt—and the advantage that would be derived by the raisers of stock would be almost beyond calculation.

Mr. BAIRD correctly remarks that there is more profit in raising one good animal than there is in raising two or three poor ones of inferior breeds. If we were to make a calculation from that statement to show the advantage in raising stock of superior breeds, it would overreach one hundred dollars on an average to each farmer annually, and I think if the farming community was convinced of that fact, our stock would be improved in a very short time. The attempt has been made at different times to improve the stock of this neighborhood. Messrs. J. & S. PORTERS have purchased bulls of good quality frequently, and loaned them to their neighbors, but owing to the scrubby animals running our public highways breaking fences into fields, they accomplish but little; here and there there is a cross of them, but the blood is now so much mixed they are scarcely discernible.

I should be pleased to see the views and opinions of

other gentlemen in different parts of the State in your valuable Journal, and if they can recommend a better plan than the levying a tax to stop the poor scrubby, shad-bellied, razor-backed seed animals from running at large on our fertile soil, I shall be pleased to fall in with them immediately and have it accomplished.

SAMUEL GILLELAND.

Centre county, May 18th, 1854.

Paper from Wood.

The great demand for paper outruns the supply of rags, even adding those that are imported for the manufacture of this article. The books say that a paper can be prepared from the wood of various trees, but except from two sources in England and one in France, and they not producing a good article, it has not even been done until now. We are on the eve of successfully producing such. We have specimens of good writing paper—not as good as the best, for the means of working up the material are not what they will be—made of the fibres of hickory or the cotton poplar, of white pine and cane-brake. The material is cut first of a proper length, then treated alternately with diluted acids and alkalies, washed, broken between rollers, bleached, and thus prepared to be worked up. If under the microscope the “ultimate fibres” appear broken, as sometimes happens from using too great mechanical violence, or if they are made too tender by too great strength of acid or alkali, the specimen is faulty. These processes are mostly in the hands of practical unscientific men. The assistance of a practical scientific man at the mills would save much time, expense, and the mortification of experimenting to discover facts already well known to science. Indeed the struggles of successful inventors would be much lessened in number and in their melancholy results, if inventors would study the general features of the sciences in whose details they are generally the most skilled.—[Proceedings of Scientific Association at Washington.

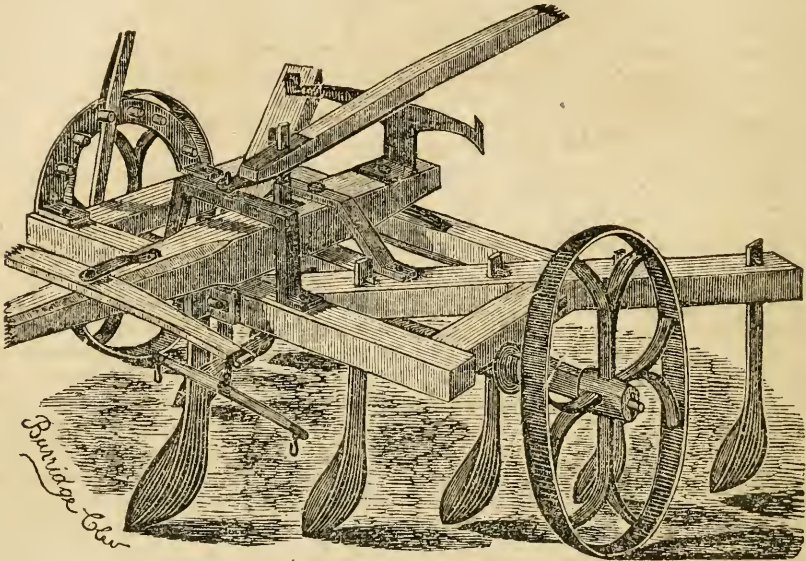
Breaking Horses.

“What is the best way to break Horses?”—I consider this an important question, and as much overlooked, perhaps, as any thing relating to rearing and fitting horses for service. A well-broken horse is what every man wishes for, and will command a readier sale, although he may be somewhat inferior in other respects. Such a horse can only be depended on. When I speak of a well-broken horse, I wish to be understood one for farmers’ use; and such a horse, I believe, will answer all purposes that a horse is used for. I shall only speak of breaking to harness. I will simply say that my opinion is, a colt should not be used under the saddle until it is at least four years old. I think breaking to harness should commence at three years, but never put to hard work till six years old. In order to break a colt as he should be, it is of great importance to have a horse that is qualified to break him; and, in order to make myself understood it will be necessary to describe some of his qualifications. In the first place, he should be perfectly true and kind. A horse that will bite a colt is unfit for the purpose. He should be a good stepper, because this is indispensable to a good traveller. The step is what tells in the journey. There is many a good horse that can trot fast, and is at the same time a poor traveller. When a good stepper is found, it almost invariably follows that his other gaits are in proportion. He should also be well-broken to the word. Now, I would put the colt in the stable, and put the harness gently on him, keeping the doors all shut, and let him stand in the stable a few hours in each day for a few days, until he gets used to the harness, and occasionally lead him out of

doors to get him accustomed to it. After he gets over showing fear of the harness, he should be placed beside the horse he is to be driven with, and the two harnessed together. Great care should be used not to frighten him. After getting all ready, a person should take him by the head, and another hold of the lines, with a whip, and begin to lead him along. If he is disposed to run, hold him in gently; never jerk him in the mouth; humor him in the bit until he gets used to it. After driving him round for an hour or two, if he is not afraid, you may attach him to a wagon that is not too heavy, and drive him on a walk, if possible; but if he is disposed to trot, bring him to the walk as soon as you can, and drive him on the gait, and if possible never let him break the walk until he is learned to walk as fast as he possibly can. Much may be done, in the breaking of a colt to increase his speed for a traveller. Driving him on a walk will not worry him; consequently, he can be kept longer in the harness than if he was driven fast. As soon as he appears to get a little tired, unharness him carefully; see that every part of the harness is unloosed before you attempt to take it off. His breast should be washed in cold water. The next day he should be harnessed and driven as before, unless his breast shows symptoms of being galled, which will be discovered by the hairs being wet under the collar. He should never be harnessed when there is the least appearance of his breast being sore. Great care should be used in turning about, for fear the wagon-tongue may strike him suddenly, and cause him to kick. After he has been driven day after day, till he has become accustomed to the harness and carriage, and learned to walk as fast as it is possible for him to do, you may commence the trot, in which he should be as thoroughly learned as to walk. It will not do to drive him far at a time; but drive him a little way, and stop till he gets rested. It is as necessary to learn him to stop and start as any thing else. After he gets thoroughly broken to the trot you may let him walk or trot occasionally; but be sure not to let him get both gaits mixed up together, which will spoil both. Make him understand his business thoroughly, whatever it may be. You may now commence drawing light loads with him, but be sure not to put a heavier load behind him than the break-horse can easily draw, and get your carriage in a position that will start easily. Be sure to have your break-horse ready to start when the word is given. In this way he should be trained till he thoroughly understands his business. Always bear in mind that the gaits above described are of the utmost importance to the value of the horse; and whether driven to a loaded or light wagon, close attention should be paid to his gaits till they are thoroughly understood by him. Now, another kind of training will be necessary for the farm. That requires another kind of gait. I have always found that the best kind of work to put a colt to at first was to put him to harrowing plowed ground. This is work that will soon make him leg-weary a little, and it will be easy to bring the quick step to a slow one, which is always necessary for plowing; and whether for plowing, or dragging, or whatever the work may be that requires the horse to go slow, he may be trained to this gait without injuring his step before the carriage. But let him thoroughly understand what his business is, and in after-life he will never forget it, and it will add to his value as long as he is able to work. In driving on a walk the lines may be a little slack; but he should always be taught when the line is drawn tight, to start off free; and when the line slackens to come to a walk. Great pains should be taken to learn him the word to stop or to start. “Whoa” should never be said to him unless it is intended for him to stop. Those who are unaccustomed to thorough breaking may say I am taking a great deal of

unnecessary pains; with such I will have no controversy. I will only say to them, try your kind of breaking, or rather no break or gait at all, with a thoroughly-broken horse on the road, and satisfy yourselves. I am confident that whoever will follow my mode of breaking will feel themselves well paid for their trouble. I am well satisfied that there are many that would have been valuable horses; but, for the want of thorough and proper training, they have become nearly worthless. There are some persons who have not a

suitable horse to break a colt with. When this is the case, it would be better for the owner to put his colt into the hands of some man who has the proper means to do it. I have broken a number of colts and never had one that proved unkind in my hands. Some of them were very mettled animals. With such much care is necessary in training. Such horses are generally much more to be depended upon when they are broken.—*Patent Office Report.*



LAPHAM'S PATENT CULTIVATOR.

The annexed cut represents an improved form of Cultivator, (for two horses,) adapted for working among corn and other growing crops; also for preparing land for wheat, &c. It is the invention of the late SENECA LAPHAM, of Champaign county, Ohio, and possesses several important advantages over other implements of the kind in use in this country.

By means of two long levers—one connected to the axle or shaft which supports the machine, and to which the wheels are hung, and the other to the tongue, to which the team is attached—the cultivating teeth can be raised or lowered, to suit the unevenness of the ground, and the machine directed independently of the team, by the person driving, and walking behind.

When a depression or elevation renders it necessary to change the depth of the teeth, by raising the lever which is attached to the axle, the teeth are lowered, or, by lowering the lever, the teeth are raised; and when it is desirable to change quickly the direction of the machine, to avoid an obstruction, or a hill of corn or potatoes, by moving the lever connected with the tongue, the cultivator is readily turned, without the trouble and delay of guiding the team.

When it is desirable to use this machine for cultivating young corn, the front tooth is removed and mould boards affixed, which will prevent the earth from covering the corn, while the teeth break the soil and destroy the weeds; or, by placing the boards in a different posi-

tion, earth may be thrown around the corn.

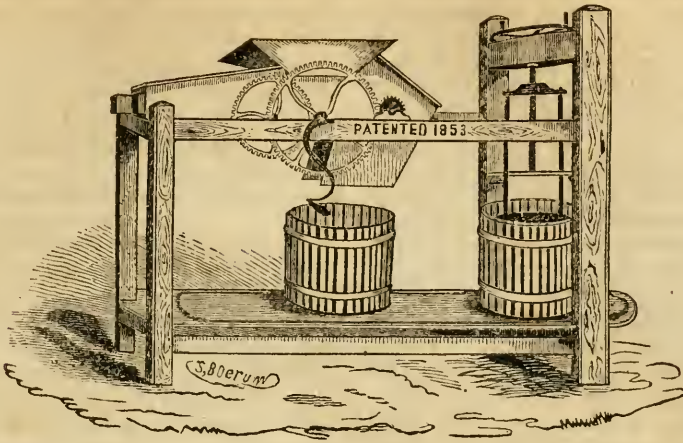
Suitable devices are provided for retaining the levers in place, and for rendering their motion easy.

Any information respecting this Cultivator can be obtained by addressing the Patentee, WM. LAPHAM, West Liberty, Logan county, Ohio.

A Wash for the Hair.

MR. EDITOR:—I observe a large number of patent preparations advertised, warranted to promote the growth and beauty of the hair, preventing its turning grey, restoring it, &c., most of which are absolutely prejudicial to health. Now, with your permission, I will give you a recipe which is in the reach of all, which will prevent the hair falling out or turning grey, and besides will prevent its becoming offensive. It is simply *Castile soap* and *water*, applied once a week in warm weather and about once a month in cold. This preparation cleanses the hair, removes dandruff, scurf, great sweat and other impurities, and besides promoting health and comfort it removes all offensive odors from the hair. The writer of this recently sat in a railroad car with a finely dressed lady, whose head smelled so strongly as to be offensive to all in the car. She informed a friend of mine that she had put cologne, pomatum, bear's oil and other preparations on her head in the hope of "killing the smell," but it was of no use. Nothing but soap and water will do it.

T. M.



JOHN KRAUSER'S PATENT PORTABLE CIDER AND WINE MILL---PATENTED AUGUST 30TH, 1853.

The annexed engraving represents the Mill, showing all its principal parts and its peculiar advantages over all other mills heretofore invented, being light and portable, and performing the labor it is intended for in one-fourth the time usually taken, and being easily worked by two persons who can make from eight to ten barrels of cider in one day. It can also be used as a Wine Mill, being so constructed as to answer for both purposes. Its simplicity of construction, durability of action, effectiveness in its operation, of reducing the whole fruit with great rapidity to a fine pulp; the powerful press attached to the Mill, which is capable of performing a pressure equal to ten tons, causing the last drop of juice to flow from beneath its pressure.

It is stated that from eight to ten barrels of cider can be made by hand-power in a day, and by horse power, to which the construction of the mill is adapted, a much larger quantity can be produced.

For the manufacture of Wine, no mill was ever better constructed for the purpose than the one above represented. Its action upon the Grape is such, that while the skin is being thoroughly broken, and the grape reduced to pulp, the seeds remain uninjured.

Paschall Morris & Co., Agricultural Warehouse and Seed Store, northeast corner of Seventh and Market streets, are sole agents in Philadelphia.

Work for the Month.

FARM.—In this latitude hay is generally made in the latter part of June and the beginning of July, according to the kind of grass cut, or the notions of the farmer as to the policy of early or late cutting. The grain harvest commences usually within a few days after the first of the month. In this, too, a diversity of opinion exists as to the propriety of early or late cutting. Those who have experimented on the subject, we believe, are unanimous in the opinion that grain cut before becoming "dead ripe" is of greater weight, and will make better flour than when left uncut until fully matured. The rule appears to be to cut when the stalk becomes white and begins to shrink just below the head, and when the

grain, on being pressed between the thumb and finger, has the consistency of dough. Corn and potatoes will continue to require attention. It too frequently happens that the hurry of the hay and grain harvests prevent proper care for these crops during this important period. The consequence is an *increased* crop of weeds and a *diminutive* yield of corn and potatoes. Nor do the consequences end with the season, but increased labor will be required in after years to exterminate the product of seeds now suffered to ripen. Again we say, neglect not your corn or potatoes at this critical season. The ruta baga crop should be sown the first week of this month in ground previously well pulverised.

FRUIT ORCHARD.—Dig and plow between strawberry rows to keep down weeds, and allow runners to take root freely. Continue the pinching and summer pruning process, thus regulating the number of fruit branches, and controlling the shape of the tree. Cut out the superfluous branches of grape vines, and pinch off the ends of the fruit branches, to increase the size of the grapes. Summer pruning has been too generally neglected. Common sense teaches us that the best plan to stop the growth of branches is to pinch off the terminal bud at the point required, and also superfluous shoots as soon as they appear, instead of allowing them to grow into limbs to be subsequently cut off after the waste of a useless growth. The art of fruit growing is to a great extent found in a proper knowledge of pruning. The blight in pear trees should now be carefully looked for, and when it makes its appearance the parts should be immediately cut away. Budding of pears and plums may be performed this month, at any time when the bark separates freely from the wood. If the weather is dry, and there is danger sap may stop flowing before the buds are mature, cultivate and work the soil around the trees to produce continued action of the sap vessels. Shake or jar quickly plum trees every morning, and collect for burning or feed to the hogs the fruit which falls, containing the eggs of the curculio. Were this plan adopted by all cultivators, the ravages of the "little Turk" would be sensibly diminished. Whenever practicable,

hogs and poultry should have the run of the fruit orchard, to eat up the fruit which falls prematurely.

VEGETABLE GARDEN.—Attend to directions of last month. Transplant during damp spells of weather, cabbages, cauliflower and celery, as before directed. This latter should first be pricked out of seed beds, and transplanted to a prepared piece of ground, before final removal into trenches. Try salt for this crop. Sow endive, small salading, summer radish, ruta бага seeds, &c. Plant cucumber seed for pickles. At the last of the month some spinach and lettuce may be sown for autumn use. Cut off and dry for use, such herbs as come into flower. Peas may be planted for fall crop, also sugar corn for table use or marketing. The main turnip crop should be planted in drills about the last of this, and the beginning of next month. Gather all seeds as they ripen, and hang them up in a dry, airy place. Stir and pulverize the ground thoroughly between all vegetables, to promote their growth, and keep down all weeds. Sow plaster and ashes over hills of cucumbers, squashes, pumpkins, &c. Where plants require water, it should be done in the evening.

FLOWER GARDEN.—Attend to mowing grass plots, hoeing and raking flower bed and walks. Tie up carefully the young shoots of running roses and other creepers. Peg down verbenas and petunias as they continue to grow. They will flower much better when tied up to stakes. Tulips, hyacinths and bulbous roots generally may be lifted this month. Supply their place with the last sowing of annuals. As soon as the hybrid perpetual roses are out of bloom prune the young shoots back to within three or four buds of the old wood. It will cause them to start growing again and produce bloom. Cut the seed pod of all perpetual roses, as soon as they have shed their bloom.

Notice to County Societies in Pennsylvania.

We have been furnished by Dr. ELWYN, President of the Philadelphia Society for Promoting Agriculture, a printed pamphlet copy of the minutes of that Society from its first institution in 1785 to March, 1810.

We understand it has been printed by Dr. Elwyn at his own expense, and he intends a copy for every County Agricultural Society in Pennsylvania, which the Secretaries or other authorised persons can obtain by calling at his residence in Philadelphia, or if more convenient at the agricultural warehouse of Paschall Morris & Co., northeast corner of Seventh and Market streets, Philadelphia. It contains much interesting and valuable matter, and the Doctor is entitled to much credit for his liberality in getting it up in the present form.

It will be seen by a perusal of this volume that many of those, whose active energies were devoted to furthering the science of agriculture at the earlier period of the Society's existence, have given place to others, who, if we know them aright, lack neither the ability nor the determination to sustain the reputation of their institution.

Berks County Agricultural Society.

The committee of this society, appointed some time back to proceed to Allentown to examine the buildings and enclosure of the Lehigh County Agricultural Socie-

ty, made a report at a meeting, and submitted plans for buildings for the Society, which was adopted, and a committee appointed to procure materials for enclosing the exhibition ground and erecting suitable buildings before the next annual exhibition.

From the spirit of determination exhibited we expect to see the "Common" in its finest gala dress in October. By the way we will here just request the committee to leave a little nook for us, or one of us, upon which to pitch our tent at the exhibition in October.

Chester County Horticultural Society.

The June exhibition of this Society was held at its Hall on the 15th, 16th and 16th ult. The display was meagre compared with former years. The following are the principal premiums awarded:

Best half peck Peas, best display of Beets, best three heads of Cabbages, best quarter peck Potatoes, and best display of Vegetables by a market gardener, to George Lentz, gardener to P. Morris & Co.

Special Premium for Seedling Rhubarb to Josiah Hoopes.

Best one quart of Strawberries (Hautboys), S. A. Ingram; Second best, do. John Rutter.

Best display of Strawberries and best one quart Cherries, to John Rutter.

Best display of green house plants and best display of Roses by Nurserymen, to J. Kift, gardener to P. Morris & Co.; second do. do. to H. Lynch, gardener to Hartman & Co.

Best display by amateurs, to Josiah Hoopes; second best, to Abm. R. McIlvaine; third best, to C. H. Painter.

Best display of Cut Flowers, to P. A. Sharpless; second best, to Hartman & Co.; third best, to M. J. Hickman.

Best display Flowers in Baskets, to Anna C. Hoopes; second best, to C. Baldwin; third best, to J. & M. Bennett.

Best display Indigenous Plants, to J. & M. Bennett.

Best Boquet, Centre Table, to J. Kift; second best, to Mrs. J. S. Futehy; third best, to M. A. Seal.

Best Mantel Bouquet, to Anna T. Hoopes; second best, to Hallie Townsend; third best, to Isaac Sweeney.

Best Hand Bouquet, to M. H. Pyle; second best, to P. Morris & Co.; third best, to M. A. Seal.

Best display Verbenas, to J. Kift.

Schuylkill County Agricultural Society.

The Annual Exhibition of the Schuylkill County Agricultural Society will be held at Orwigsburg on the 17th, 18th and 19th days of October. At a meeting of the Society held at Orwigsburg, on Saturday, May 27th, 1854, among other business transacted the following resolution was adopted:

"Resolved, That the Schuylkill County Agricultural Society most respectfully asks the location of the Farmers' High School of Pennsylvania at Orwigsburg. The morality of this town and vicinity will compare with any in this Commonwealth. Communication by Railroad, Canal, Telegraph, &c., are points of consideration. Land of a suitable character for the establishment of such a school can be procured at this place, cheaper

than at any other in the State, connected with the same advantages, and the Society offer all the facility in their power to carry the measure into effect. The President of the Society, or, in case of his inability to attend, a person by him appointed is authorized to make this proposition to such a body as may be authorized to locate the school.

J. S. KELLER, Rec. Sec'y.

Crops for 1854.

The wheat crop in Chester and adjoining counties seems to promise now to be a very heavy one. It is, however, considerably lodged. A wheat crop is never safe till secured in the barn. We understand in several counties of Western Pennsylvania, wheat has been greatly injured by the changeable winter, which has thrown the roots out and destroyed the crop. Many fields have been plowed up and buckwheat sown.

The hay crop in Chester county, from the same cause, it is thought will be much lighter than last year.

Regulations for the Fourth Annual Exhibition of the Pennsylvania State Agricultural Society—to be held at Philadelphia on the 26th, 27th, 28th and 29th days of September next.

Any person can become a member of the Society for one year by the payment of one dollar into its treasury. All the members of the Society whose dues are paid, and all who shall become members previous to or at the Fair, will be furnished with cards of membership, which will admit the person to the Exhibition at all times during the continuance of the Fair, and entitle the holder thereof to all the privileges of a member until the next annual Exhibition.

Cards of membership will be furnished by the Secretary at his office in Philadelphia at any time after the first of September, and by the Treasurer at his office on the Fair grounds during the Exhibition.

Single ticket for one admittance, price 25 cents, will be ready at the Treasurer's office on the grounds on Thursday morning, the 28th of September.

Members will be allowed to enter the grounds in carriages with their families; but no hacks or other public conveyances will be permitted to enter.

Members of the Society, Exhibitors, and the Viewing Committees or Judges, alone, will be admitted the first day of the Exhibition.

The days selected for the Fair are Tuesday, Wednesday, Thursday and Friday, the 26th, 27th, 28th and 29th days of September.

Exhibitors must become members of the Society, and have their articles and animals entered on the Secretary's book, on or before Tuesday evening, the 26th; and all articles and animals, except horses, must be brought within the enclosure as early as Tuesday noon, in order that they may be suitably arranged for examination by the Judges on Wednesday morning. Horses will be received early on Wednesday morning, but must be entered previously.

The Executive Committee do not intend to assure any exhibitor, who neglects these requirements, that his articles can be passed upon by the Judges. While every effort will be made to secure the examination and proper notice of every article on exhibition, justice to those who

comply with the rules of the Society requires that they shall, in all cases, first receive attention.

An office will be opened in Philadelphia on and after the first day of September, for the purpose of receiving entries of exhibitors.

Articles or animals removed from the ground before the close of the Exhibition (except by permission of the President) cannot receive a premium though awarded.

On Thursday the grounds will be opened to the public, and continue open for two days. Single admission 25 cents. Members' cards \$1.

COMPETITION WITHOUT THE STATE.—The Pennsylvania State Agricultural Society makes the field of competition co-extensive with the United States, and cordially invites the citizens of other States to compete with us for our prizes.

Animals and articles entered for exhibition will have cards attached, with the number as entered at the business office; and it is desired that exhibitors should, in all cases, obtain their cards of Number and Class, previous to placing their stock or articles on the grounds.

All persons who intend to exhibit horses, cattle, sheep or swine, or who intend to offer stock for sale, should notify the Secretary of such intention, on or before the 20th day of September, and leave with him a list and full description of such stock, in order that proper arrangements may be made for their accommodation.

Applicants for premiums are particularly requested to pay attention to the directions attached to the list of premiums for fat cattle, fat sheep, butter and cheese, &c., and the statements required from exhibitors of those articles must be lodged with the Secretary before the 26th of September.

INSTRUCTIONS FOR JUDGES AND SUPERINTENDENTS.—The Judges are requested to report themselves to the President on their arrival, at the Business Office, at the Show Grounds; they are desired to meet at the Society's tent, on the grounds, at 4 o'clock, P. M., on Tuesday, 26th September, when the vacancies will be filled; and on Wednesday morning, at 9 o'clock, at the same place, they will be furnished with the books of entries, when they will proceed to decide upon the merits of the different animals and articles submitted to them, reference being made to the numbers affixed to each.

The Judges on all animals will have regard to the symmetry, early maturity, size, and general qualities characteristic of the breeds which they judge. They will make due allowance for age, feeding, and other circumstances, on the character and condition of the animals.

They will not give encouragement for over-fed animals. They will not award premiums for bulls, cows, or heifers, which appear to have been fattened for the butcher: the object being to have superior animals of this kind for breeding.

No person whatever will be allowed to interfere with the Judges during their adjudications.

The Judges will be expected, in all cases, in making their reports to give the reasons of their decision, (especially in the case of animals,) embracing the valuable and desirable qualities of the animals or articles for which premiums were awarded.

When anything is exhibited to the Judges, which they

shall deem meritorious, but beyond their power to award a premium to, they will furnish a note of the same to the Committee on Discretionary Premiums, for their consideration and action.

No animal or article can take more than one premium. All productions placed in competition for premiums must be the growth of the competitors.

When there is but one exhibitor, although he may show several animals in a class or sub-division of a class, only one premium will be awarded; that to be the first, or otherwise, as the merit of the animal or article may be adjudged. And a premium will not be awarded, when the animal or article is not worthy, though there be no competition. In any case the person to whom a pecuniary premium may have been awarded, may elect to accept a diploma instead thereof.

SUPERINTENDENTS.—It is expected that the Superintendents will take particular direction of all articles in their respective departments, and see that all such articles are arranged, as near as may be, in some numerical order, for their easy approach and examination.

PLOWING MATCH.—The Plowing Match will take place on Friday, the 29th, at 9 o'clock, A. M., in a field adjacent to the place of exhibition. Persons competing in the plowing match are requested to have their teams hitched, and ready to move off at the appointed hour.

THE ADDRESS.—The Annual Address will be delivered at 1 o'clock, P. M., on Friday, the 29th of September; and immediately after the address, the Reports of the Viewing Committees or Judges will be read, and the premiums awarded and distributed.

HAY AND STRAW.—Hay and straw will be furnished gratis for all animals entered for premiums, and grain will be provided, at lowest cost price, for those who desire to purchase.

PAYMENT OF PREMIUMS.—The Premiums awarded will be paid by the Treasurer at his office on the grounds till the close of the day, and on Saturday at the same place. All cash premiums will be then paid and delivered if called for.

Persons to whom premiums have been awarded are informed that unless they call for their premiums at the Fair, application must be made, by letter, to the Treasurer, GEORGE H. BUCHER, at Hogestown, Cumberland county, with whom the Book of Awards will be left. Persons to whom medals and silver plate have been awarded will please furnish their names to the Recording Secretary, in order that the engraving of names may be properly done.

The Secretary will forward the Diplomas awarded in such manner as may be directed by the persons entitled to receive them.

The Reports of the Judges will be published by the Society, as soon after the Fair as practicable.

NOTICE TO EXHIBITORS.—The Executive Committee will take every precaution in their power for the safety of stock and articles on exhibition, after their arrival and arrangement upon the grounds; but will not be responsible for any loss or damage that may occur. They desire exhibitors to give personal attention to their articles and animals, and at the close of the Fair to attend to their removal.

Mr. JOHN CLARK, of Arch street, above Broad, Phila-

delphia, has been appointed General Superintendent of the Exhibition, to whose care all articles intended for exhibition and not accompanied by the exhibitor must be directed.

R. C. WALKER, Sec'y.

Fair Grounds, Regulations for the Fair and Exhibition of the Pennsylvania State Agricultural Society.

We are happy to be able to announce that the Fourth Annual Exhibition of the Pennsylvania State Agricultural Society will be held on the Powelton and Bingham estates, at the terminus of the Columbia Railroad, in what was recently West (now City of) Philadelphia. The grounds are eminently suited for the display, while in facility of access by public communication the location is probably unequalled by any spot in the State.

Removal—Agricultural Reading Room, &c.

Since the issue of our last number, we have removed to our NEW OFFICE on High street, one door south of the Agricultural Warehouse, where we shall be happy to see our friends from far and near. The office of the Chester County Agricultural Society is in the same building. All the principal Agricultural Journals published in America, as well as some foreign ones, will be kept on file in this office for the perusal of the members of the Agricultural Society. We trust our friends having an hour's leisure when in town will be able to find this a pleasant and profitable retreat.

Annual Exhibition of the Chester County Agricultural Society.

The Executive Committee of the Chester County Agricultural Society met at the office of the Society on the 18th ult., and fixed the time for holding the Annual Exhibition on Friday and Saturday, the 8th and 9th days of September. The committee meet again on the 1st of August, when the final arrangements will be made. The exhibition will probably be held in Everhart's Grove in this borough.

Growing Strawberries.

We hear from various quarters of failures of strawberry crops, in some cases where extraordinary care and labor had been bestowed. One of our friends put out a large bed last spring, trenched the soil two spades deep, manured heavily, and has literally no fruit this season.

As enquiries are often made of us on this subject, we may remark that we entirely agree with No. 8 in the *pronunciamento*, in our present number, of the Cincinnati Horticultural Society. Whatever differences of opinion there may be as to the *possibility* of their being a strawberry from a pistillate blossom, without the influence of staminate, there is none, we believe, as to the necessity of the latter to produce a full crop of fruit. We recommend that beds of pistillates be set out, and at certain intervals between a single row of staminate. These latter are apt to overgrow the others, and should be watched closely, and all runners cut off. Their blossoms only are wanted for fertilization. One staminate is sufficient for twenty pistillates. Sometimes the entire failure of a strawberry crop is owing, as we think it may have been this season, to late frosts, but is much oftener

attributable to the usually rapid growth of staminate plants, which soon overrun the entire bed.

Strawberry Question and Ad Interim Report.

The following paragraphs of the proceedings of a stated meeting of the Pennsylvania Horticultural Society, held February 21st, 1854, appear to have been accidentally omitted in the report published in the Farm Journal about that time. Our attention has now been called to them in connection with an observation in T. MEEHAN'S article on the Strawberry Question, that that part of the Ad Interim Report had been "rejected" by the Society. It appears only to have been referred back for reconsideration. The omitted extracts from the minutes are as follows:

"The Fruit Committee made their Ad Interim Report, a portion of which, relating to the Strawberry question, was objected to by Mr. CORE, and upon his motion referred back to the committee with instructions to reconsider the subject thereof, and report after the next Strawberry season.

"Some remarks were made by Mr. HANSON, and on his motion it was resolved, that the subject of the changeableness or otherwise of the sexual organs of the Strawberry be referred to the Committee of Botany."

Superphosphate of Lime.

The above fertilizer, manufactured by Prof. MAPES (being the article chiefly used in this section, others as yet not having been much tried,) is confirming this season its previous high reputation. For wheat, grass and corn it has been found equally valuable, and some of our farmers who have made extensive use of it prefer it to guano. One of them informs us that he experimented in different parts of his corn field, in alternate sections in the hills, with Mapes' superphosphate, ashes and plaster, guano, bone dust, and manure from the heny, properly composted. Its singular appearance, of various colors and height, attracted much attention of passers-by—the part where the superphosphate had been applied in the hill and the corn dropped on it being considerably ahead of any other portion.

Its effects have been particularly striking on pastures and mowing ground, and we know of no application equal to it, from our own observation of its effects, to renovate and fertilize such fields and lawns where the grass has run out, and where it would be inexpedient to plow it up. We have latterly also heard it very highly spoken of by those who have tried it as a manure for pear trees, slightly dug in around the trunk.

One kind of manure for all soils, and under all circumstances, is hardly more rational than one kind of medicine for all diseases. What Mapes' superphosphate of lime has done, within our knowledge, in three or four counties around Philadelphia it may not do everywhere else, but we advise those farmers, who require something more than their barnyards can yield them, and who can obtain it, to buy a portion the present season.

Peruvian Guano.

The Peruvian Government have made another advance of \$5 per ton in the price of Guano, being the second increase within a few months. Whether this rise has re-

sulted from a scarcity of vessels, as is alleged, or whether with a view to enable speculators, with heavy stocks on hand, to realize fortunes at the expense of the farmer, and in an article now considered almost indispensable, we are unable to say. It is a matter we think requiring the interposition of government to place the guano trade on a different and more permanent footing. Could not a treaty be made with Peru, by which, on the payment of a stipulated sum, and under any reasonable restrictions, the trade should be opened to any one to send a vessel at his own risk, and obtain a cargo.

An immense outlay has been made for a commercial treaty with Japan, and why should not the farming interests, in a matter of such importance as the supply of guano, be attended to. After enquiry all we can learn is, that "the subject is claiming the attention of government." This has been the report from Washington for a long time, and nothing else is known, but with the very great anticipated demand for the coming crop of wheat in the fall, it is time something should be done. There is reason to fear that in this country, no less than in England, an adulterated article is often sold. We copy the following letter from the English Agricultural Gazette, as to the extent of the business of adulteration there:

"Will you allow me to call your serious attention to the extensive adulteration which is just now being practised by the dealers in guano? Few people are aware to what an extent this nefarious business is carried on, nor how deeply many credulous farmers are fleeced. It is true that some of them are becoming awake on the subject, and show a good deal of skill in protecting themselves; but the bulk of them suffer unsuspectingly. I knew a case where two brothers bought of one dealer out of the same cargo; one used all his quantity, the other kept a bag. When pay-day came, the first-named paid in full; the other demurred, expressed doubts about the genuineness of the guano, thought he should have it analysed. I need not pursue the story further than to say, that, rather than have any enquiry instituted, the scoundrel of a dealer took *half* the amount of the bill and settled it in full.

"Another course has recently been adopted. Rascally firms in London get respectable tradesmen to become their agents in the country, and through them distribute worthless trash for Peruvian guano. Recently a friend of mine bought a parcel in this way, price £12 per ton, cash down. Some doubts having arisen as to the article being genuine, it was submitted to Professor WAX, and his analysis was as per copy inclosed:

23 Holles Street, May 10, 1854.

ANALYSIS OF A SAMPLE OF GUANO.

Moisture.....	9.12
Organic matter and salts of ammonia.....	14.19
Sand and clay.....	48.87
Phosphates of lime and magnesia.....	16.10
Hydrated sulphate of lime.....	7.97
Alkaline salts.....	3.75

100

Nitrogen, 3.14 per cent., equal to ammonia, 3.81 per cent.

(Signed) J. THOMAS WAX.

It is any thing but a genuine article, and contains half

of its weight in sand and clay. It is worth less than £4 per ton."

Reaping and Mowing Machines.

The demand for these the present season has far exceeded what was considered the too sanguine expectations of manufacturers, and many farmers in all sections of the country, whose minds were not made up early to purchase, find it impossible to be supplied.

One agricultural house in Philadelphia, Paschall Morris & Co., have sold nearly 200 machines, and many others have no doubt been disposed of at other places. Of mowing machines alone, Allen's and Ketchum's have been most sought for, and so far as we have heard up to this present time have given general satisfaction. As regards combined reapers and mowers, public opinion seems to be more undecided. Manny's, McCormick's, Hussey's, Atkins', and Seymour & Morgan's, (the last two self rakers,) whose reputation is chiefly as reapers, are also recommended for mowers, and the experience of farmers this harvest will test whether a combination for both reaping and mowing has yet been made, which will give *entire* satisfaction. We hope our friends in different sections of the State, so soon as hay and harvest time is over, will write for the Farm Journal their experience with these different machines *after trial*. It is a matter of considerable importance to be settled, which is the best mowing machine, which is the best reaping machine, and which is the best combined reaper and mower. We anticipate the demand next season will far exceed the present—many being deterred from purchasing by the uncertainty as to which is the best. Will our friends please write us as to the amount of work their machines have performed in a day, their simplicity or otherwise of construction, liability to get out of order, ease of draft, names of manufacturers, &c., so that our readers can have all the material to form correct conclusions in the case.

Fruit Prospects for 1854.

It is almost impracticable, with such a variety of soil and climate as exists in the United States, to collect *reliable* information as to the prospects for fruit. Since railroad facilities have so greatly extended, a deficit supply in one section is immediately filled up from other points, as was the case in Philadelphia last season with apples: notwithstanding a great failure of the apple crop in Pennsylvania and other Atlantic States, the Philadelphia market was probably never more abundantly supplied.

The present season, so far as we have heard, in Pennsylvania, Delaware, and many parts of Jersey, there is another failure of the fruit crop, probably worse than last year. The peach crop in Delaware will not make more than half a crop. In this immediate section not only will the apples be more scarce than has been known for years, but also pears, peaches, cherries, and the smaller fruits, gooseberries, strawberries, &c. The disappointment is greater, as this is what is called the fruit year. The cause is doubtless owing to the extraordinary mild spell of weather very early in the spring causing the flow of sap and premature swelling of the buds, which were killed afterwards by the subsequent

hard frosts and sleets. About the 1st of May, often so very mild, there were one or two cold nights sufficient to produce quite a layer of ice on the surface of the water. This probably finished what had been left unhurt before.

Every year proves that fruit culture is a business of itself, requiring for success the same skill, foresight and perseverance as any other. The watchful eye of the fruit grower must be ever on the alert. The healthy growth of trees, the excellent quality of fruit, the guarding against insects, are matters to some extent within our own control. The danger from late frosts, or mild weather in mid winter is not so much so, but even this may be regulated to some extent by choosing high exposures where the air will circulate freely, (northern ones are generally the best,) and also attention to shelter. It is often expedient to have a strip of woods on the *south* side of an orchard. Kindling fires in different parts of it, so as to cause a free circulation of smoke, have also been found frequently a preventive of damage from a hard frost. Let no one, however, be discouraged from planting orchards. One thing is certain the *eating* of fine fruit is not going out of fashion, and we know of no application of land, speaking in a general way, that offers equal remuneration, taking an average of five, ten or twenty acres, as fruit culture. A single good year often pays for land, labor and other expenses.

Alderney Stock.

Some fine animals of this kind were lately disposed of at public sale by Dr. GIBSON, on his farm near Philadelphia. We had hoped for particulars for this number of the Farm Journal, but they have not arrived in time before going to press. We understand AARON CLEMENT, of Philadelphia, was one of the purchasers.

Reaping and Mowing Exhibition.

We observe a trial of reaping and mowing machines is advertised to take place on the farm of WILLIAM STAVELY, in Bucks county, on the 4th of July. A large committee of practical farmers and judges will be present to decide on their respective merits, and the award will be looked for with much interest. Manufacturers should avail themselves of these opportunities for exhibition, and we hope there will be one of each kind on trial. \$20 is offered for the best mower; \$20 for the best reaper; and \$20 for the best mower and reaper combined.

Canada Thistle.

MR. EDITOR:—Since we have commenced taking the Journal in the club (Fork's township farmers' club, No. 1), we find that you are so obliging as sometimes to give your opinion to perplexed mortals, and answer the enquiries of subscribers. We wish to ask your opinion upon the matter below:

"Is there any chemical agent that will *permanently* eradicate the *Canada Thistle*, or are there any other means of destroying it permanently?"

Our reasons for asking the above questions are these: There is a gentleman in our neighborhood who has a so-called *Eradicator*, which he says will destroy them permanently. It is a *white powder*, but what the name of it

is we do not know. It seems to have a caustic effect, for by cutting off the top of the thistle and applying it to the cut surface of the root, it immediately dries it up as it were, and which he affirms will totally eradicate it. Now is there any chemical agent that has that effect. One of the undersigned has a small farm, but unfortunately the Canada thistle, by some means or other, has taken root there, and as he wishes to have them expurged from the farm, if possible, he has come to you to ask your advice. He would be willing to employ the gentleman above alluded to, and pay him his prices (which are not very moderate), but he would like to be sure that when they are once eradicated that they would stay so. Please inform us in your next issue of the Journal if there is any agent, chemical or otherwise, that has that effect, and what it is. By doing which you will greatly oblige your friends,
 Easton, June 8, 1854. JOHN RAHR,
 W. H. SEIP.

We hope our friend W. H. S. will not pay any thing for the alleged chemical discovery. We have no faith in any specific of this kind against the Canada thistle, which will be *practically available*, or will not cost more than it will come to. There are a great many chemical agents, which will not only kill Canada thistle, but grass, weeds and every thing else, but it won't pay to apply them on an extensive scale. To cut the plant down and apply salt immediately in sufficient quantity, will also kill the thistle as well as most other plants, and we would trust to this with as much confidence as any other chemical application, where it is found only in occasional spots, and is not widely spread.

When this latter is the case, nothing but constantly mowing or cutting down wherever it shows itself, together with a system of *continued* plowing and cropping, will answer. Plants cannot live without light and air. If kept under the surface they must dwindle and die. They grow and turn towards these as *naturally* as water down hill. As a *general rule*, all nostrums, specifics and secret processes, such as the above, may be safely discarded. They are money making speculations and nothing more. Agricultural and horticultural pursuits are so ennobling and elevating in their tendencies, that the scientific investigator who has been fortunate to discover any of the secret processes of vegetable life, which will have the effect of making two blades of grass grow instead of one, and thus benefitting the whole race, rejoices at an opportunity of being a public benefactor. This is entirely different from a display of inventive genius, as in the case of improved machinery, and where a man is very properly and fairly entitled to the reward of his labors. In the growth of plants, it should be recollected we are but *discoverers*. There is no invention.

Human Excrement as a Manure.

While the earth is raked from one end to the other for fertilizers, and all the ingenuity is put in operation to manufacture them, the most important of all manures is thoughtlessly wasted. Not only in all our large cities and towns, over the whole width and breadth of this country, but on most of the farms themselves, the human excrements are either deposited into deep excavations in the ground and when full covered with earth, or

into streams to be carried away. Is not this a most unreasonable course and the worst of policy, especially while millions are annually paid by the farmers to obtain the elements of fertility for their exhausted fields?

Could not the people of this Republic be urged to study the common good of all? the soil would certainly remunerate them richly for it in the case in question. All the efforts that can enter the minds of men are made to take from the soil to its utmost, the grain, the beef, the pork, &c., are carried to market, in this and all the other States in the Union, and that is the last. The land is thus robbed of all the elements of fertility without any restitution.

One scarcely knows how to propose a plan for saving and deodorizing the elements above alluded to, without incurring the sneers and abuses of ignorance, but if stupidity can find delight in it, let it do so.

Why cannot every family in the country have a fish-barrel cut through the middle, with convenient handles fastened to it, and pushed under the back-house, and keep a supply of pulverized charcoal and ground plaster to fix the azotic matter (both well known fertilizers), and then carry it on the barnyard manure heap, or apply it in such a form as seems best to them. And why cannot city and town authorities pass ordinances regulating the erection and arrangement of these buildings, with movable vessels, and cheap and suitable deodorizers, and employing persons to empty these vessels at stated periods, or whenever it becomes necessary, carting their contents under roofs a short distance out of the inhabited portions of cities and towns, where it could be prepared for the use of the farmer and gardener, and conveyed on their grounds? It would be a considerable source of revenue, besides a removal of the seeds of disease and infection from cities and towns. Almost everybody can testify to the fact that the apartments in question are sometimes entered with the greatest difficulty, and that the olfactory nerves are so shockingly attacked, that one sometimes feels disposed to commit a little more than was intended should take place, in fact it is almost impossible to enter without departing sick from these miserable nuisances. But the person or town council establishing this reform would likely suffer from ignorant stupid, slandering tongues. No sooner, however, than its beneficial results would be felt, than the people would be unwilling to dispense with such arrangements.

A little plain reasoning on this subject can do no harm. Is not the very food that we consume the product of similar substances, and vice versa? Why then this foolish disgust and contemptible nicety about a fertilizer so important to the community at large?

June, 1854.

J. S. KELLER.

European Agriculture.—No. 7.

Vegetable Growth and the Inorganic Constituents of Plants.

MR. EDITOR:—In my last I promised to devote the present article to the consideration of the present use of lime, and its known value as an article for the improvement of the soil. The subject would be rendered more plain by a preliminary examination of the points suggested by the questions:—What is essential to vegetable growth? By what conditions is it modified, and what is destructive of it? The farmer uses large quantities of various kinds of manures du-

ring long periods of time, in which the question, "do they pay," or "will they pay," frequently engages his thoughts, but as to the question *how* they will pay, or for *what reason* they will pay, it seldom or never enters his mind.

Why will a hundred pounds of guano produce a greater increase in a crop of wheat than an equal amount of sand? Such a question is not generally a subject of thought with the farmer, if it does produce a greater crop it is enough to know this fact, and the article is used accordingly.

'Tis true a knowledge of the practical use of a thing is of vast importance; but we never can learn all the practical uses of any thing till we can ascertain the real nature of the thing, and the cause of its being practical. So when we learn what vegetable growth consists of, what is essential to it, and study the relation of lime, manures, &c., to it, we will be prepared to judge more correctly of how far we are to depend upon certain manures to insure a crop.

To look for a moment at the process of vegetable growth throughout the entire period of its existence, we will select as an example the common Indian corn, which, if not the best for illustration, is certainly the best adapted to the time of year, and the present labor of the Pennsylvania farmer. What is the earliest stage of growth in which we can observe the corn plant? It is not at the period of its first coming up through the corn hill, nor is it even at the time of germination, but in the hard grain the cornstalk in miniature resides.

The grain consists of two parts, an organized structure endowed with a vital principle, and a nutritious deposit which constitutes the solid part of the grain. The organized structure is the soft part selected by mice as food; and when the mouse eats out the "eye" of the grain, it in reality eats a stalk of corn, with stem, leaves and all. This organic structure first came into existence while its parent stalk was "out in silk." Every grain has a fibre of silk extending to its destined locality. A small portion of dust from the "tassel" falls on the silk, and is conveyed down the latter to a very small sack within which is contained a mucilaginous mass; the dusty (now moistened) material is absorbed through the substance of this sack, and coming in contact with the matter thereof the vital principle of the stalk originates, and under its influence the entire plant is developed. This plant as truly grows from this time to that of the ripening of the grain as does the parent stalk that bears it. Around it is deposited a hard mass which is principally composed of starch, the use of which we shall presently see.

When the grain is ripe the growth of this embryo plant is arrested, and can be kept at this point of its partly finished growth a long time. (All authors on botany mention cases of seeds preserving this vital principle thousands of years, so that at the expiration of this time when planted they grew.) As soon as the little plant thus enclosed in the seed is placed in suitable circumstances it continues its course of development, the greatest object of which is to produce other organized structures like itself. These "suitable circumstances" are a certain degree of warmth, not less than 45° or more than 113° for our ordinary plants as wheat, rye, oats, &c.,* air and moisture.

The plant wants the last two agents in order to convert its starch into sugar; until this is done it cannot germinate. The water is absorbed from the moisture that is always present in a good soil, and the air penetrates the earth so as to supply the requisite amount of its elements.

The grain absorbs oxygen from the air at the same time, that its integuments are softened by the absorption of water;

*Experiment has shown the Indian corn can be heated 18 degrees higher than the above mentioned plant seeds without destroying its vitality.

at this period, a peculiar substance (diastase) combining nitrogen appears in the grain, and through its influence the starch is transformed first into *dextrine* and then into sugar; the presence of the latter causes the sweet taste of the germinating grain. Starch and dextrine have the same composition, and sugar only differs from them in chemical composition by having a little more of the elements of water.

The embryo plant, now surrounded by sugar, resumes its growth, but it no longer receives its nutriment from the parent stalk, but from the rich share of material which the parent stalk has stored up for it in its early existence, before it is able to derive any thing from the soil or the air.

The first effort is to get organs developed suitable for deriving nutriment from the air and earth, accordingly the root penetrates the soil, and the stem soon has two leaves spread out above the corn hill to collect nutriment from the air.

Thus far it has subsisted on the product of the decomposition of the starch in the grain, but this being exhausted another process of nutrition commences, viz: that of absorbing water and such inorganic constituents as are dissolved therein at the roots, and carbonic acid in the leaves. At this third period of its existence, it presents its most interesting and important character for the consideration of the scientific farmer.

We have seen that in germinating the plant must have water. It would be well to remark here, that the practice of spreading hot, caustic, unslacked lime on land, particularly in a dry season, and then planting it in grain immediately afterwards, is decidedly injudicious, as the hot lime absorbs all the moisture and combines with it, which otherwise might have been obtained by the grain.

With respect to the inorganic materials, which the plant takes up at its root, the quantity and quality of the same that are required by the plant, has been a source of no small degree of difference in opinion among chemists and vegetable physiologists.

When chemical analysis was first applied to the investigation of this subject, much more was anticipated from its results than was possible to realize. The farmer got the idea in many instances—indeed the chemist was not without it—that with a knowledge of the composition of the soil and that of the grain he would raise on it, and the different kinds of manures, he could take slate and pencil and calculate how much manure was required to raise a given crop. But as soil analyses and ash analyses multiplied, a thousand conditional circumstances were found to modify the result.

The ash of plants was found to vary so much as to lead some to conclude that its presence was merely accidental in the plant. Others charged the re-actions upon the imperfect method of analysis; and many chemists gave up the prosecution of the subject as not being sufficiently definite to allow of satisfactory conclusions. It is now admitted that nearly all the earlier analyses of plants are not to be relied upon for accuracy. Modern investigations carried out on a large scale, and with greater care, and the use of better methods, are leading to highly interesting results, which promise to be of vast importance to the agriculturist.

These investigations consist of learning the composition of inorganic constituents of each of the several organs of the plant in the different periods of its growth, when it grows on different soils, or with an excess of different kinds of manure supplied to it. Regard must also be had to the weather, and indeed all the circumstances tending to influence or modify vegetable growth.

It is a subject that never can be satisfactorily settled till we have a country of scientific farmers; men who under-

stand the scientific nature of the operations by which they obtain their practical results. The future promises fairly to produce such a class in the United States.

The present state of our knowledge, with regard to inorganic constituents of plants, is such as to lead to the conclusions, that there is a certain amount of inorganic matter required by plants, without which they cannot grow.

That this inorganic matter is liable to considerable variation, both in the kind of matter and the amount of the same; that these changes are due to cultivation, the nature of the soil, and the healthy or diseased state of the plant. Further, substances are taken into the plant, and are found in its ashes (the inorganic part) that are essential to its growth, but that are taken in as the mere result of accident, just as the sand and mud are taken into the stomach of the ox when he drinks muddy water.

Now how are we to ascertain what substances are really essential to the growth of the plant? If analysis should detect grains of sand in the stomach of an ox, we would be at no loss to decide that they were not necessary to his nutrition; but when we find in the plant potash, soda, lime, magnesia, alumina, iron, copper, &c., how are we to tell which of them stand in the same relation to the nutritious plant of the group as the sand does to the corn and hay in the stomach of the ox?

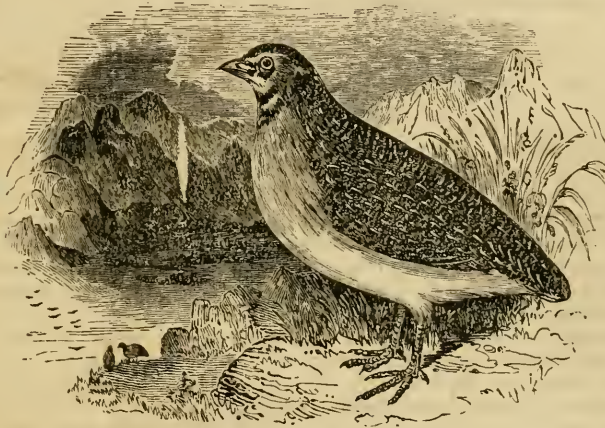
Again: the ox can have one kind of food substituted for another. How far can such substitution take place amongst vegetables? These questions are of vast importance to the agriculturist, and as yet they are not satisfactorily answered. Liebig supposes potash and soda could replace each other, as also could lime and magnesia. Such a supposition is consistent with the known chemical relations of these bodies, and the facts of early analysis seemed in a measure to corroborate it, but these analyses have to a great extent proved inaccurate; and those of a later date go to show that soda plays a very insignificant part in the plant, so much so that in many cases its presence appears to be merely accidental, as we shall see hereafter.

Lime is an important constituent, but seems to act principally as a secondary agent in fitting other materials for the plant. It is in but small quantity in our ordinary crops, as may be seen by the following analysis of the ash of 100 bushels of each of the following grains:

Wheat, 115 lbs. ash, of which about 4 lbs. are lime.					
Oats, 104 lbs.	do	do	do	6	do
Rye, 104 lbs.	do	do	do	3	do

But more of this hereafter, in the meantime think of four lbs. of lime for 100 bushels of wheat, and ask where all the lime goes that farmers put on land.

E. P.



THE QUAIL, OR PARTRIDGE.

Can the Partridge be domesticated?

ALEXANDER WILSON, the great American Ornithologist, thus discourses upon this topic:—The eggs of the Quail have been frequently placed under the domestic hen, and hatched and reared with equal success as her own; though, generally speaking, the young Partridges being more restless and vagrant, often lose themselves, and dissappear. The hen ought to be a particularly good nurse, not at all disposed to ramble, in which case they are very easily raised. Those that survive, acquire all the familiarity of common chickens; and there is little doubt that if proper measures were taken, and persevered in for a few years, that they might be completely domesticated. They have often been kept during the first season, and through the whole of the winter, but have uniformly deserted in the spring. Two young Partridges that were brought up by a hen, when abandoned

by her, associated with the cows, which they regularly followed to the fields, returned with them when they came home in the evening, stood by them while they were milked, and again accompanied them to the pasture. These remained during the winter, lodging in the stable, but as soon as spring came they disappeared. Of this fact I was informed by a very respectable lady, by whom they were particularly observed.

It has been frequently asserted to me, that the Quails lay occasionally in each other's nests. Though I have never myself seen a case of this kind, I do not think it altogether improbable, from the fact, that they have often been known to drop their eggs in the nest of the common hen, when that happened to be in the fields, or at a small distance from the house. The two Partridges above mentioned were raised in this manner; and it was particularly remarked by the lady, who gave me the in-

formation, that the hen sat for several days after her own eggs were hatched, until the young Quails made their appearance.

The Partridge, on her part, has sometimes been employed to hatch the eggs of the common domestic hen. A friend of mine, who himself made the experiment, informs me, that of several hen's eggs which he substituted in place of those of the Partridge, she brought out the whole; and that for several weeks he occasionally surprised her in various parts of the plantation, with her brood of *chickens*; on which occasions she exhibited all that distressful alarm, and practised her usual manoeuvres for their preservation. Even after they were considerably grown, and larger than the Partridge herself, she continued to lead them about; but though their notes, or call, were those of common chickens, their manners had all the shyness, timidity and alarm of young Partridges; running with great rapidity, and squatting in the grass exactly in the manner of the Partridge. Soon after this they disappeared, having probably been destroyed by dogs, by the gun, or by birds of prey. Whether the domestic fowl might not by this method be very soon brought back to its original savage state, and thereby supply another additional subject for the amusement of the sportsman, will scarcely admit of a doubt. But the experiment, in order to secure its success, would require to be made in a quarter of the country less exposed than ours to the ravages of guns, traps, dogs, and the deep snows of winter, that the new tribe might have full time to become completely naturalized, and well fixed in all their native habits.

Strawberries.

A writer in the *Friends Review*, thus describes his process in producing fine stawberries:—I applied about once a week, for three times, commencing when the green leaves first began to start, and making the last application just before the plants were in full bloom, the following preparation—of nitrate of potash, of glauber salts, and sal soda, each, one pound: of nitrate of amonia one quarter of a pound—dissolved in thirty gallons of rain or river water. One-third was applied at a time, and when the weather was dry I applied clean soft water between the times of using the preparation, as the growth of the young leaves is so rapid that unless well supplied with water the sun will scorch them. I used a common watering pot and made the applications towards evening. Managed in this way there is never any necessity of digging over the bed or setting it out anew. Beds of ten years old are not only as good, but better than those two or three years old. But you must be sure and keep the weeds out.

The Springfield Cattle Show.

The 25th, 26th and 27th days of October next, have been fixed by the United States Agricultural Society for holding its first CATTLE CONVENTION, in the City of Springfield, Clark county, Ohio. Six thousand dollars will be distributed in premiums for the best stock of the various breeds of Cattle subject to competition without territorial limit.

The Executive Committee of the United States Agricultural Society have been careful to select a time that will not, so far as they are aware, conflict with any of the State Fairs or other meetings of general interest; and after due deliberation have selected this place as the most eligible for holding the Cattle Fair. Springfield is centrally located as regards the cattle region; it is most convenient of access by

railroad from almost every point of the compass. The means for accommodating, at very moderate charges, a large number of persons, are ample. Private houses will be opened for the reception of guests. There are also eighteen cities and towns within reach by an hour's ride on the railroads, on which extra trains will be placed to accommodate such as wish to go elsewhere for lodgings.

About twenty acres of ground have been enclosed, and more than three hundred stalls will be prepared for the shelter of cattle during the Convention. It is expected that very liberal arrangements will be made by all the railroad companies, both for the transportation of cattle and the conveyance of cattle to and from the Fair.

J. T. WARDER,

C. M. CLARK,

CHANDLER ROBBINS,

Local Executive Committee.

Springfield, Clark co., O., May, 1854.

Preparation of Flax.

The following is the Report of the Committee of Arts and Sciences of the American Institute on LEAVITT'S Machinery for the preparation of flax, of which a notice has already been made in our columns. The Committee report:

That they have examined the samples of flax in various states of preparation, exhibited to them by, Dr. O. S. LEAVITT, and have received from him full explanations of his processes to perform them. In order that they might perform the duty assigned to them more satisfactorily, they have invited Col. JOHN TRANERT to aid them in their investigations and to unite with them in their report.

1. From the samples exhibited, it appears that by Dr. LEAVITT'S process, ripe flax, after being stripped of the seed, can be cleansed completely and prepared for manufacture without being rotted.

2. That from the flax in its earlier stages of preparation, without rotting, rope, twine, and coarse fabrics, may be made with a great saving of manual labor.

3. That by further mechanical processes the gum, gluten, and resin, may be chiefly removed, and by the use of machinery in aid of the usual chemical processes, the flax may be deprived entirely of its color and rendered fit for the manufacture of fine linen—that thread exhibited to them, apparently in consequence of the omission of the process of rotting, and the substitution of mechanical methods for much of what has hitherto been performed chemically, is stronger than common linen thread.

4. That the expensive and wasteful process of heckling is entirely superseded by Dr. LEAVITT'S processes, and the prepared material is delivered from the last of the cleansing processes in rovings ready to be submitted to the usual spinning machines.

5. That the flax cleansed, bleached, and formed into rovings, can, we believe, be produced at a cost much less than that of rotted and heckled flax unbleached, while the inventor claims and adduces satisfactory arguments to prove the probability that flax, ready for spinning into white thread, will not exceed good cotton in its cost.

6. Dr. LEAVITT also claims that by a process of kyanizing, applied during the preparation of flax and hemp, the cordage made therefrom is rendered more durable and stronger, while the surface of the yarn is rendered smoother.

Admitted that the processes of Dr. LEAVITT have no other advantages than those which your committee can state to be absolutely certain, your Committee are of opinion that their result must be attended with very important consequences, and will, if carried into operation on an extensive scale add much to the agricultural and manufacturing wealth of the United States.

JAS. RENWICK, Chairman.

From the Journal of the United States Agricultural Society.

Experiments in Reclaiming Swamps.

BY J. W. PROCTOR, DANVERS, MASS.

Experiment No. 1.—by S. Blaney, of Salem.

The locus in quo, of this operation, is situate among the slenite hills in the western part of the city. It contains one and a half acres, extending 40 rods in length, and varying from five to ten rods in breadth—the borders irregular, with here and there a ledge of rocks obtruding. Eight years ago, it was so densely covered with a growth of alders and blueberries, as to be almost impenetrable to man or beast; especially at those seasons of the year when the water was on; at that time the bushes were cut, and it remained without culture or product until 1852. Mr. B. then becoming the owner set about bringing it into use.

His first operation was to cut a ditch through the centre, down to the hard pan; the mud from which was taken to the upland for the purpose of compost. Subsequently five or six cords of refuse animal matter, collected from his wool shop, and a neighboring glue factory, were mingled with this mud, making a heap of about twenty cords. The roots of the bushes, and the stumps of the early growth of yellow birch, were effectually removed. About two hundred cart loads of gravelly loam, from the shores adjoining, were carted on to fill the holes and gullies. Then the sod was inverted by the plow, to the depth of ten inches. The surface was then pulverized and evened as far as practicable, and the heap of compost applied.

About the first of September, 1852, it was sown with grass seed, herds grass and red top. The whole expense thus far (all the labor having been hired by Mr. B.) is estimated not to exceed \$50 per acre. No other fertilizing material was applied.

In July, 1853, at the first cutting, 4 tons 1,170 pounds of hay were obtained, which sold on the ground for \$18 per ton. At a second cutting three tons more were obtained, of a quality equally valuable;—making the entire produce, within thirteen months of the time of seeding down, 7 tons 1,170 pounds, or more than five tons to the acre—paying for all the labor and material applied, and leaving a surplus of \$30 per acre.

Mr. B. considers his land worth \$300 an acre, because it will sell for this amount. He makes no pretension to skill in culture, or to knowledge of chemical science, but thinks from the product of his field, he made the right application in the right way. The surface presented now is as handsome ground for mowing as is any where to be seen; all the surplus water being effectually drained off by the centre ditch, with a few covered side cuts. Mr. B. proposes to put on a thin coating of loam the coming winter when the ground is frozen.

It is rare that an experiment is witnessed paying so well in so short a time.

Experiment No. 2.—by Adino Page, Danvers.

This was on the Danvers Town Farm, on a lot containing between three and four acres. Operations commenced in 1850. Previously it had been a sunken offensive morass, yielding no valuable growth.

A main ditch was cut through the centre, and shore ditches on either side, and cross ditches about fifty feet apart. Many of these were covered, so as not to appear on the surface. In some places the mud was eight feet or more deep, in others from three to five feet deep. From the shores and knolls adjoining gravel and loam was carried on, so as to give firmness, sufficient to sustain the plow, when the water was drained eighteen inches below the surface; where the soil could not be well stirred by the plow, it was effectually done by the use of a meadow hoe, constructed for the purpose. Most of the labor was done by the paupers at the Alms House (chiefly foreigners), and no pains was spared to have it thoroughly done.

Very little fertilizing material was applied, it being thought rich enough to support any crop that could be started upon it. It was sown to grass in 1851. Very little grass in 1852, but between twelve and thirteen tons of the best hay on the farm was cut on this meadow the present season.

It is so situated that the surplus liquids from the pig-yard and the sink can be conducted in any quantity and diffused over the land. With such an application there is good reason to believe four tons to the acre of valuable fodder will

be grown annually on this meadow. It is an appendage to the farm of the value of eight hundred dollars at least; whereas four years ago it was of no value, but rather an eye sore, and an offence—breeding miasmata and death.

The exact expense of the experiment, Mr. P. is not able to estimate. The work has been done at "odd jobs," when other labors did not press, and by those who would have done little else, if this work had not been done. The entire operation, as superintended by Mr. Page, the master of the house, is creditable to his judgment and his persevering industry, and the best certificate that can be given of his competency to superintend works of improvement of much greater extent.

Experiment No. 3.—by T. E. Payson, of Rowley.

This was commenced about three years ago, on a part of an extensive meadow of fifty acres or more. The water having been drained away by a main ditch, and a sufficient number of cross ditches; Mr. Payson commenced by cutting very narrow ditches about five feet apart, and throwing the contents of these ditches upon the surface.

The beds thus formed were planted with potatoes.

In 1852 the crops of potatoes paid for all the labor and manure that had been applied to the part thus treated. The potato vines were thrown into the narrow ditches, and the entire surface smoothed and sowed with grass seed. The crop of good English hay the present season exceeded three tons to the acre.

Several other acres were planted with potatoes, in like manner, the present season, but in consequence of the failure of the crops by reason of the rot, the labor has been in a measure lost. Until the rot came on, Mr. P. felt encouraged to hope that he should soon have an extended field of English mowing, producing three tons or more to the acre, without any expenditure of capital in bringing it about, except the moderate price of about \$20 an acre paid for the land.

Experiment No. 4.—by Horace Ware, of Marblehead.

This was on about three acres of swamp, situated adjoining a pond of about five acres. Mr. W.'s first operation was to cut a ditch through upland, of a half a mile in extent, to the shore of the sea, so as to reduce the height of the water in the pond four feet. This caused the surface of the swamp to settle about two feet, leaving it still about two feet above the pond. Then all bushes and other obstructions were cleared from the surface, and a coating of gravel and night soil mixed, to the depth of about three inches, was applied.

The crop of potatoes, grown on this land the first year, paid for all that had been done to it, and it has since yielded annually three or more tons of good English hay to the acre. Mr. W. considers this reclaimed meadow as valuable now as any land appurtenant to his valuable farm.

I might specify other experiments that I have witnessed, some of which did not succeed; probably because the work was not thoroughly done, and the fertilizers applied were not of the right character. But as a specifying of such operations may not be gratifying to those who performed them, and may possibly deter others from attempting improvements, I forbear to name them.

It will be observed that each of the specifications given are simple in their character, and such as are in the power of any owner of land to imitate. I have preferred to state facts with no theories appurtenant, because the one can be seen and known for certainty, while the others are not at all times so certainly known.

In the few instances thus hastily sketched, many spears of grass have been made to grow where none grew before. I record them for the encouragement of those who have acres of like unproductive land, capable of being reclaimed. The first thing to be done is to effectually remove all superfluous water. The water should never be suffered to interfere with the roots or fibres of the vegetable growth. In all these low grounds there is an abundance of material that has been accumulating for centuries, and as soon as it can be relieved of excess of moisture it can be made productive. If I do not mistake upon lands of this description is the best opportunity for successful experiment to be found on our farms, especially in hay products—one of the staple productions of the country.

The same land, when reclaimed, can be made to grow vegetables in great abundance. I have never seen better products of beets than on such land. At least thirty tons to

the acre I have seen growing. How they will answer for cabbages and carrots I am not advised. Parsnips, I know, will grow luxuriantly on such land; why this luscious and pleasant flavored plant is not more extensively grown, I am unable to conjecture. For the feed of many animals nothing can be better.

Boy-Thrift.

In looking into the position and treatment of boys upon farms, as we have done lately, our notion has more and more strengthened that it is as easy as it most certainly expedient, to give every boy a chance of earning a little money for himself. This can be done by allowing him to set apart a corner of a garden, or pay rent for a single field; but we find, in the American Agriculturist, the following suggestion of another way to make the laboring lad proud of his home, and interested in his occupation. It is from the report of a "Farmer's Club:"

"J. Reynolds said he knew a lad who five years ago began to keep poultry. He bought five or six hens, raised chickens, and sold chickens and eggs. He fed largely upon fresh fish. He has now a flock of some fifty hens, has purchased a cow, repaired his little barn, clothed himself, assisted his mother more or less, and is now, from the sale of his milk and the produce of his poultry, quite a thriving young man, accumulating a very pretty capital."

Concrete Cellar Bottoms.

The facility and cheapness with which the bottoms of cellars may be made clean, sweet, and impervious to water, is generally but little known to house owners; nor the ease and certainty with which water may be excluded from cellars where it is difficult to drain.

In soft and pervious soils, this process is best performed by paving with small stones, laid in sand; but in common, compact soils, the natural surface, well leveled, will answer all purposes. Make a thin mortar with water, lime, and coarse sand, of the consistency called *grout*, or so thick that it can be poured from a pail on the ground. Commence with a portion of about eight or ten feet at one end, and throw on sufficient to cover it an inch or more thick, and with a scraper, or rakehead, spread it evenly and smooth; then throw on as much clean, coarse gravel as it will absorb, and so continue until it is finished. In twelve hours, or so soon as it has set, sweep the overplus gravel evenly over the surface, and ramp it down with a short plank and a pounder, until it is smooth and compact, and in a few days of good weather, it will become like a solid rock. It assists its durability and firmness, to give it several good dashes of water after it is dry.

To render the sides impervious to water, where drainage is difficult or costly, requires that the wall should be laid with mortar originally: and at the time of constructing the bottom, a good, well-proportioned water-lime mortar should be plastered on, a little higher than the source of water, and well and firmly slicked down when about half dry, and followed by another coat of the same: when, if a proper time intervenes before there is any outward pressure of water, it becomes tight as a barrel or tub; it is always sweet, clean, and cool, and no vermin can enter or find lodgment.

The sand used in the grout and mortar should be coarse, clean and sharp, and the gravel from the size of walnuts down to coarse sand.—*Rural New Yorker*.

Milking Cows.

To insure the greatest yield of milk from a cow, she should not only be well fed and well tended, but also well milked. Now it is not every man or every maid, who can squeeze fluid from a cow's udder, that is a good milker.

It is important, in the first place, that a cow's bag should be clean. For this purpose, when the animal is stabled—as they are, or should be, during the winter, on all farms, and throughout the year, by many—let the whole udder be washed with cold water, and immediately thoroughly dried with a towel. The advantages of this practice to the health of the animal, and the healthiness of the milk, are great and manifest; and in this way, too, we escape the black sediment of which milk-buyers so constantly complain, and which is nothing else than small particles of manure, brushed from the bag and belly of the cow into the milk-pail. The hands of the milkmen by this process become washed clean, of necessity; an operation too generally omitted by those who consider themselves neat and careful. The same process

obviates, too, the supposed necessity of moistening the teats by milking a fine stream into the hands and washing the teats therewith—a filthy practice, followed by almost all men, and too many women.

The udder being now cooled and cleansed, we are ready to begin milking. If the cow be well trained, she will now extend backward her hind leg for your convenience, without a word accompanied with the word of command "*hoist*." They understand what is required of them, and need only at times a gentle reminder. But it is a singular fact, that men who are kind in every other relation of life, as husband, father, neighbor and master—are rough in their treatment of gentle "bossy." If they say "hoist," it is in stentorian tones; and too generally, the first intimation of their wishes is conveyed in a striking manner, by the edge of a heavy milking stool. Now a considerable experience among the "milking mothers of the herd," has convinced us that harshness of tone, or petty cruelty, is not only not productive of good results, but is extremely disadvantageous. Many cows that hold up their milk to a cross milker, will give down freely to one more gentle. And the sack of grain, or other weight across the loins, which is well used to compel the animal to give down, would have been unequalled for if a kind hand had always drawn her milk, or could be dispensed with, if gentleness takes hold of the teats.

Now the cow may kick. Well, we have in previous numbers of this journal shown that to return kick for kick is a poor method of converting Mooley from the error of her ways, but she may be completely cured by kindness.

When fairly seated, it is of the utmost consequence that the milking should be done without violence, and as rapidly as possible. Many persons who pride themselves on their fast milking, jerk the teats violently, and others will cause them to become sore by the pressure of their finger nails. The best milkers scarcely move their elbows, but with the upper portion of the hand grasping and compressing the teat, force the jet of milk by the pressure of the lower fingers.

Whether a cow should be milked before, after, or during feeding is a question of minor importance, and must be decided by circumstances. R. L. ALLEN, in his excellent work on "domestic animals," recommends, if we rightly remember, that they be milked while feeding, for the reason, that while thus engaged they will more readily let down their milk; but many cows, at other times quiet, will be a little uneasy while eating, and anxious to get not only all that belongs to them, but a share of their neighbor's meal also. For this reason we always milked before feeding that the feed might appear as a reward of merit. Where one has but one or two cows, it is of course a matter of little moment.

In fine, we recommend to those who want much milk and good milk, *kindness and cleanliness*.—*Journal of Agriculture*.

How to Caponize Fowls.

The practice of the French country-woman is to select the close of the spring, or the beginning of autumn, as well as fine weather, for the performance of their work. The parts necessary to be removed, being fixed in the abdomen, and attached to the spine at the region of the loins, it is absolutely necessary to open the abdominal cavity for the purpose of their extraction. The bird should be healthy, fasting, and about three months old. He is then to be secured by an assistant, upon his back, his belly upwards, and his head down, that the intestines, &c., may fall up toward the breast; the tail is to be towards the operator. The right leg is then carried along the body, and the left brought backward and held in this position, so as to leave the left flank perfectly bare, for it is there that the incision is to be made. The said incision is to be directed from before to backwards, transversely to the length of the body, at the middle of the flank and slightly to the side, between the ends of the breast-bone and the vent. Having plucked away the feathers from the space where it is intended to make the incision, you take a bistoury or a razor, and cut through this skin, abdominal muscles and peritoneum; it is better to do this at two or more cuts, in order to avoid the possibility of wounding the intestines—a casualty that would, in most cases, be attended with fatal results. The intestines present themselves at the orifice, but you must not suffer them to come out; on the contrary, you press them gently aside, so as to have room for action. I may observe, that the incision should have

been sufficiently large to admit of the fore-finger, previously well oiled, being passed into the abdomen, and carried carefully towards the lumbar regions of the spine; you will there find what you are in search of. You first reach the *left* substance, which you detach with your nail, or with your finger bent hook-fashion; you then arrive at the right, which you treat similarly; bring both substances forth; you finally return the intestines, sow up the wound with a silk thread—a very few stitches will suffice—and smear the place with a little fresh butter. Some persons recommend the amputation of the comb, close to the skull of the newly-made capon; but this is surely an unnecessary piece of torture—a useless addition to the sufferings of the poor bird. The proposed object of this amputation is to insure the recognition of the capon amongst his co-mates of the poultry-yard. Were such a distinctive mark necessary, it strikes us that the operation must have been, so to speak, thrown away; inasmuch as the superior size and bulk of the capon should, of themselves, be sufficiently indicative of his identity; but independent of these, I may observe that the *comb* of the capon does not grow to any size, and always retains a *pallid* color. Should it be proposed to caponize cocks belonging to varieties not naturally possessing combs, it will surely be found, at the very most, sufficient to cut the tail feathers down to a stump. In some parts of the continent, the caponizers resort to still more unnecessary brutality. They cut off the spurs of the poor caponized bird, and making an incision in its comb, as it were *plant* them in it: they are so held for about twenty minutes—in short, just until the blood coagulates; they then become not merely permanently adherent, but actually *grow*. The less, however, said about these very, and needlessly, inhuman practices the better.

To return to our more immediate subject:—The process having been performed as above described, the bird is placed in a warm house, *where there are no perches*, as if such appliances were present, the newly-made capon might very probably injure himself in his attempts to perch, and perhaps even tear open the sutures, and possibly occasion the operation, usually simple and free from danger, to terminate fatally. For about a week, the food of the bird should be soft oatmeal porridge, and that in small quantities, alternated with bread steeped in milk; he may be given as much pure water as he will drink, but I recommend that it be *tepid*, or, at least, that the *chill* be taken off it. At the end of a week, or, at the farthest, ten days, the bird, if he has been previously of a sound, vigorous constitution, will be all right, and may be turned out into the walk common to all your fowls.—*Richardson*.

Milk and Butter Cows.

A statement is published, verified by a responsible name, of the product of milk and butter, of 14 Ayrshire cows, the property of EDWARD M. SHEPARD, of St. Lawrence county, New York, which is worthy of being laid before our readers. It is briefly as follows:

“Mr. SHEPARD had 14 cows, Ayrshires and their crosses on natives, half bloods, six heifers milking for the first time—time, the first week in June—feed, grass only.

“Allowing one cow for family use, and deducting 40 per cent. from heifers, and his trial stood thus:

Cows,.....	8
Heifers 6, reduced to cows is,.....	3.6
	11.6

Deduct one cow for family is..... 1.6

“The product for the week was 12 lbs. 12 oz. per cow. The first week in July, feed, grass only, and much affected by drought, he milked twenty, eight of whom were heifers, milking for the first season, and his trial stood thus:

12 cows, less one for family, is.....	11
8 heifers, 40 per cent. off, is.....	4.8

Full cows, 15.8

“The product for the week, per cow, was 14 lbs. 13 oz. and a fraction over.

“But lest you might think my allowance for heifers too much, which, however, is considered a just allowance by the dairymen of this country, the result of the last trial, without any deduction for their being heifers, and four of them only two years old at that, was 12 lbs. 5 oz. and a fraction per head, per week.”

Farmer's Girls.

Up in the early morning, just at the peep of day,
Straining the milk in the dairy, turning the cows away.
Sweeping the floor in the kitchen making the beds up stairs,
Washing the breakfast dishes, dusting the parlor chairs.

Brushing the crumbs from the pantry, hunting the eggs at the barn,

Cleaning the turnips for dinner, spinning the stocking yarn,
Spreading the whitening linen down on the bushes below,
Ransacking every meadow where the red strawberries grow;

Starching the “fixens” for Sunday, churning the snowy cream,
Rinsing the pails and strainer down in the running stream,
Feeding the geese and turkies, making the pumpkin pies,
Joggling the little ones's cradle, driving away the flies.

Grace in every motion, music in every tone,
Beauty of form and features thousands might covet to own,
Cheeks that rival spring roses, teeth the whitest of pearls,
One of these country maids is worth a score of your city girls.
—*New York Tribune* HELEN M. LADD.

New Importation of Stock.

A late number of the Mark Lane Express contains the following account of a new importation by the Clarke county (Ohio) Cattle Importing Company, which were shipped for Philadelphia. It will be seen prices are well kept up:

In accordance with my promise I send you some further particulars of a valuable cargo of Short-Horned cattle, Cotswold and Southdown sheep, which left Liverpool during the past week, in the “Bailey,” for Philadelphia. The stock in question were those purchased by Dr. WATTS and Mr. WADDELE, the gentlemen I named in my former report as having made great search throughout the United Kingdom, they having visited most of the principal herds of England, Ireland, and Scotland, as agents for a spirited company in Clarke county, Ohio, United States. When we mention that amongst these cattle, which consisted of 10 Short-Horned bulls and 20 cows and heifers, were animals that cost 200 guineas, several 150 guineas, and most of them averaging over 100 guineas each, it may be readily inferred that ample funds were placed at their disposal; coupling with this the heavy personal expenses of those gentlemen, with freight, fittings, and food for the stock, each in itself an item of no small amount, some idea may be formed of the enterprise and spirit of our transatlantic brethren; and we may heartily wish them the reward which such patriotic conduct so richly deserves. Every facility was given us by those gentlemen for the inspection and particulars of the animals during their stay in Liverpool: several breeders also, some of them from a distance, came to view them; and we are happy to have their testimony in confirmation of our own. They were indeed a prime lot, and to collect such was a work of no little difficulty. Dr. Watts paid a visit of the kind in the year 1852, and we learn that he was one of the original shareholders in the first Ohio company which imported largely from this country in the years 1834 and 1836, and that such stock proved a great benefit to Kentucky, Ohio, and other Western States, over the vast extent of which we are told the produce of this valuable race of cattle (the “Short-Horn”) are widely spread, and that many of them are such as would do credit to the parent country.

Amongst those now shipped were eight lots purchased at Mr. Wilkinson's sale at Lenton, many of them very superior specimens of the breed; three very promising animals from Mr. Fawkes' herd, at Farnley Hall; a fine young white bull, called “Medalist,” bred by Mr. Torr, of Aylesby, which attracted a good deal of attention—this animal is closely allied to the blood of Mr. Booth, of Warlaby; Mr. Torr also sold them a bull, cow and heifer; there were four good specimens from the herd of Mr. Ambler, of Watkinson Hall, Halifax, besides others bred from the stock of Lord Feversham, Sir T. Cartwright, Messrs. Birchall, Clarke, Dudding, Mitchell and Wood, all English breeders; three splendid bulls, purchased at the Royal Dublin Show (two of them winners of the first prize in their classes), which were bred by Messrs. Farrel, Lee, Norman and Topham; there were also several promising yearling heifers from the herds of Messrs. Barnes and Chaloner, celebrated breeders of Short-Horns in the Sister Isle. The Cotswold sheep were from the celebrated flock of Mr. Hower, of Northleach, and the South Downs from that of Mr. Webb's, of Babraham. Messrs.

Hankin and Co. also shipped a valuable lot the previous week; their cattle were mostly purchased in the North Riding of Yorkshire and the county of Durham; the sheep were from the same breeders as above. I regret I had not an opportunity of seeing this shipment, being absent from Liverpool at the time; but I learned from a friend residing near here, interested in such matters, that they were a useful lot of stock, about the same quantity as those of Messrs. Watts and Waddle; they are also for a company in the Western States of America, and for which good prices were paid. I hope these continuous exports of our best stocks may induce our farmers and breeders to pay greater attention to the rearing of the most improved breeds of cattle, as such a demand holds out every encouragement for them to do so.

The Big Tree from California.

A tree of most extraordinary height and dimensions, was recently felled on Sierra Nevada, California, and a portion of it arrived in New York last week, intended for public exhibition. It measured, when standing, three hundred and twenty feet in length, with a diameter of 32 at five feet from the ground. The trunk of this huge monarch of the forest was perfectly solid from the swampwood to the centre, and, judging from the number of centric rings, its age has been estimated at three thousand years. Of this vegetable monster which the proprietor has named the *Gigantal Americus*, 50 feet of the bark, from the lower part of the trunk, was put in the natural form in San Francisco for exhibition. It there formed a spacious carpeted-room, containing a piano with seats for 40 persons. On one occasion 140 children were admitted without inconvenience; and at another time thirty-two couples waltzed within its colossal circumference with the greatest harmony. Public exhibition will be made of this majestic tree in New York, as soon as a suitable place can be procured for that purpose.

Practical Hints About Keeping Milk From Souring.

Milk is a compound, made up of a mixture of oil, (butter,) sugar, caseine (curd) and water. If allowed to stand still, the oily matter will rise to the top in the form of cream. There is a little free alkali (soda) in the water of all sweet milk, and without this soda the water will not have the power to keep the caseine or curd dissolved. The sugar of milk is also dissolved in the water. If the sugar can get access to air it is constantly inclined to change to an acid, (lactic acid) just as sweetened water changes to vinegar when exposed to air, and we can see just why milk curdles, and how it may be kept sweet.

We all know that acids destroy or neutralize the effects of alkalies, (such as soda, potash, lime, &c.) As before stated, when the milk is new, there is some free soda in it, but when some acid is formed from the milk sugar, this acid neutralizes the soda, and the water without the soda cannot dissolve the caseine, but it separates into a mass of curd. More sugar turns to more acid, and in time the whole becomes quite sour. Now there are two ways of preventing this souring. The first is,

Keep the air away from the milk as much as possible. We cannot very well keep the milk covered air-tight, but the oil or cream which rises to the top forms a very good cover *if it is kept unbroken*. If, then, it is desired to keep the milk some length of time, great care should be taken to keep it still, and preserve the cream undisturbed. Those who get milk but once a day should divide it into several portions, each portion to be kept undisturbed till it is wanted for use. The second method is,

Put into new milk a little extra soda to neutralize the acid as fast as it is formed. A bit of soda, say the bulk of a marrowfat pea to a quart of milk, will not injure its taste or quality, while it will often keep it sweet for a day or more longer than without it. We have often taken milk already beginning to sour and curdle, and by stirring in well a little soda, and rendered the milk as sweet and good as when first drawn from the cow. We know that sweetened water will turn more rapidly to vinegar, (acetic acid) if it is kept warm. Just so the sugar of milk turns to acid (lactic) sooner if kept warm, and on this account the cooler milk is kept, the longer it will remain sweet.

It is well known that heavy thunder-storm will often render milk speedily sour. This may be effected in two ways: the agitation of a thunder clap may introduce more air into the milk, and the greater amount electricity passing through the milk may hasten the change of the sugar to acid. We

have heard suggested, with how much truth we cannot say, though there is some plausibility in the statement, that milk is less likely to be effected by thunder if it is kept in glazed earthenware instead of metal vessels like tin pans; and also that it will, at such time, keep better if the vessels are placed upon dry wooden benches or shelves away from the walls, than if set upon the bottom of the cellar or milk-room. The reason assigned is, that the dry bench or shelves act as non-conductors, and prevent electricity from going through the milk in its passage from the clouds to the earth.

The most important thing in the care of milk however, is to leave it undisturbed—not even moving the vessel, or agitation the surface from the time the milk is strained, till it is all required for use.

The shallower milk vessels are made, the greater will be the yield of cream, as it will the more readily rise to the top. —*American Agriculturist*.

Splendid Floral Specimen.

There is now in full bloom, in the Liverpool (England) Botanic Garden; a beautiful specimen of the *Wistaria sinensis*, which covers a space of wall amounting to nearly nine hundred square feet. At the present time there are about six thousand racemes or bundles of flowers on it, each bunch bearing on an average about fifty-five flowers, so that it bears on the whole about 330,000 individual flowers, which yield a most grateful perfume.

Hints About Avoiding Fires.

Very many large fires, as well as many severe burns, may be avoided by understanding that air is necessary to produce combustion, and that the exclusion of air is as effectual as an application of water. Indeed, in extinguishing fire, water chiefly acts by shutting out air, and any other means of shutting out the air is just as effectual. We have shown this frequently in lectures on heat, by pouring upon the table a quantity of spirits of turpentine, alcohol, or ether, and when set on fire so as to produce a large flame, we have instantly extinguished it, by quickly spreading over it a silk handkerchief or piece of paper, which for the instant shut out the air.

A week or two since, a young lady in Danbury, Ct., upset a camphene lamp, the contents of which spread over her dress and enveloped her in flames, but she seized a blanket from a bed, and immediately wrapped it close around her, and thus smothered the fire, (shut out the air,) and escaped without injury. Five years since, we were transferring from one vessel to another, two gallons of mixed sulphuric ether and chloroform, both very inflammable substances, which burnt with a great flame—when a person in the room, carelessly brought a lighted lamp near, and set the whole on fire. We instantly snatched a table-spread from the table near by, and with it covered the flame and extinguished it. We sacrificed the dishes and food upon the table, but saved the house, perhaps the block of buildings, and perhaps our lives, as a moment's delay would have enveloped the whole room in flames.

Two years since: a servant girl, contrary to oft-repeated and positive directions, undertook to fill a fluid lamp while burning, and, as was certain to be the case, the can of liquid took fire, (not "exploded,") and was dropped upon the floor, setting her under garments on fire. She ran for the door, but another domestic happened to catch hold of her outer clothes in such a way as to draw them closely around her, and thus unwittingly smothered the flame, while a member of the family extinguished the burning lamp, can, and fluid from the floor by spreading an ironing cloth over it.

Some dozen years since, one of the boys on our farm, was at work in the horse and carriage barn before light, one winter morning. When called to breakfast he left the lantern where it was knocked down by one of the horses, and a large mass of straw for bedding was set on fire. When discovered, the whole mass—four or five feet in diameter—was in flame that nearly reached to the hay hanging down from a mow above, containing several tons. In this case, a horse blanket was at once thrown upon the centre of the flame, and others quickly added, and the fire extinguished without damage, although large volumes of smoke poured forth from the doors and other openings, and almost prevented any one from entering.

We have known of instances of rooms being found on fire, where by closing them up, the fire has been confined, and kept it in a smothered state until sufficient help with abundance of water could be produced to at once extinguish the flames. In a great number of instances, extensive conflagra-

tions could have been avoided, had the fire been kept where it originated till efficient aid arrived. This could have been done by simply closing up doors and windows, instead of throwing them all wide open, as is usually the case.

We have thus given a few instances, and we might add many others, where serious injury has been averted by applying a similar preventive, that of shutting out the free access of air, which is necessary to feed the flame. Let every person fix it in their minds, and in the minds of every member of their families, old and young, that, that other means than water may be used to smother fire. Do not teach this by precept only, for in the excitement of a fire more precepts will be forgotten, but let a few experiments be made before the family to illustrate the principle.

For example, pour upon the hearth—or better upon a flat stone or board out of doors—a quantity of alcohol, turpentine, burning fluid, oil, ether, or other inflammable substances, set it on fire, and then extinguish it by spreading a cloth quickly over it. Re-light it and extinguish it with a newspaper, and repeat the experiment with a handkerchief, an apron, a cloak, a dress, a table-cloth, bed-quilt, &c.

The experiment may be varied by smearing an upright block, barrel, or post with oil, alcohol, or otherwise, and when on fire, extinguish it with a cloth or old garment.

Some simple experiments like these are always interesting; they develop thought, and prepare one for acting coolly and effectually in an emergency. They are drilling and maneuvering soldiers to a battle.—*Amer. Agriculturist.*

Hints to the Farmer.

Keep your enclosures in good repair. If a post or a stake rots supply its place with another before it falls and introduces your own or neighbor's cattle into your corn or wheat field. Stone walls are the most valuable of all enclosures, where one has the materials for erecting them, or where they can be obtained within any reasonable distance, walls are cheaper than any other fence that can be constructed. A farm surrounded with good wall, may be regarded as enclosed for all time; the materials, although the walls may fall, or be thrown down, never decay. Next to walls, we may mention stump fence as the most valuable species of field enclosure. Properly constructed, on land that does not "heave," they endure for generations, and ordinarily subject the farmer to but little expense for repairs. Hedges of thorn are also valuable, and produce a most beautiful effect upon a landscape. They are also very durable and efficient.

The Ox that Wouldn't Stay Killed.

A farmer drove a fat ox to market, expecting the animal when killed would yield some twelve or thirteen hundred of beef. He sold the ox; the buyer drove him off, and at night came back, representing that the animal had been slaughtered and offered to settle for him, but showing an account of his weight that fell short of the expectation of the farmer, who insisted on seeing the beef, and after weighing it with the tallow, he was forced to go home, though not half satisfied, with the money in his pocket. During the night after his return, the dead ox came back to his yard alive and well, having broken out of the butcher's enclosure; and the next day the farmer drove the same ox back to town, and offered to sell him to the same butcher, who having missed the animal, eyed the new comer rather suspiciously, and concluding that he it was that had been sold, bought the ox at a lumping price, and paid for him this time.

Transportation of Cattle on Railroads.

A promise sometime ago, and your further late request that I would give some of my experience and observation relating to the injury done to beef cattle in driving and transporting by water or on railroads for the New York market, is my apology for this article. If any thing I can say on this subject and those relating to it, in my plain way, will be of any practical benefit, it will be at your disposal.

Twenty years ago, the State of New-York with Connecticut almost wholly supplied our city with neat cattle about three parts of the year, and Pennsylvania and Ohio made up the other part, which was principally through the summer season. But the rapid increase of population or consumers in our great and growing city, has greatly exceeded the productions of the graziers of both New-York and Connecticut; in fact fewer cattle are now raised and grazed than were at that period. I need but refer you to Dutchess County. The number now sent from there (and for several years past) to our city, is less than one-half! The farmers and graziers that formerly fatted

from fifty to seventy-five cattle, now turn off some ten or fifteen, and their extra land is more profitably employed for grain and other purposes. I may say that this is pretty nearly so throughout the State of New-York and Connecticut, we have had to depend on Pennsylvania, Ohio, Kentucky, Virginia, Illinois, Indiana, Michigan, and Arkansas. Although we still have enough weekly to supply the demand of our market which is at present about 3000 head, yet the fact is, the consumers are growing faster than the producers, and if our railroads should have another destruction or stoppage, as they had some few weeks ago, and for a period of two or three weeks, the New-Yorkers would be for a while in a state of starvation for "fresh beef." Fifteen or twenty years ago, driving cattle on foot was the principal mode of getting them here. They were started—say from Illinois—with about 100 in a drove, and about the time when they could feed on grass on their way, at a very slow rate, say eight miles per day, and so continued for sometimes 10 to 12 weeks before they would arrive here, at a cost of from 5 to 8 dollars per head. Sometimes through improper driving or care, they arrived in very bad condition; losing in flesh, and fat, especially from the inside, and lessening the value of the beast 10 to 15 dollars. The flesh, by this improper driving, would be dry, hard, tough and tasteless—in fact *all driven animals from any great distance* will be so, more or less—but the flesh from the same fat animal, taken directly from the "barn-yard," will be juicy, well flavored, and tender. I might compare them to a horse that is kept tied up without work and well fed; his flesh will be soft, fat and tender, but use and work him hard, the juices and soft fat will sweat out of him, and after a while leave him with a firm, dry, hard, and a tough flesh, capable of wear and long endurance.

But the driving has been very much improved upon; more care, attention, and strong feeding (with grains) have been introduced, with great advantage both to the drover and butcher.

The transportation of cattle by water and on the railroad is certainly the best and cheapest plan, provided suitable arrangements and careful handling can be given, but often you will see among some of the droves, several that look as if they had been scalded, burned, and bruised. Sometimes in driving them on board a steamer, they get roughly handled, and are placed too near the boiler or furnace; and in putting them on a rail-car, they are crowded and cramped together, without being tied by the head, from 14 to 16 animals on a car; and the result, is that the sudden start of the "iron horse" throws some of them down, or against one another, and again after delay, (and it is sometimes pays), the animals living without nourishment, are hungry, thirsty, and weak; not able to stand so long a time, they get down, and are trampled upon by one another, and by the time they get to our market, are in bruised and miserable condition. I have seen many of them in this bruised, scalded, burnt, sickly, and feverish condition, with swollen rumps, hips, ribs, and shoulders, others with burnt sides, buttocks, heads, and running sores. Certainly no animal in this condition could be otherwise than feverish and sickly; and of course not proper nor wholesome food; but they are all sold to *some body*, and at some price. But of late our drovers have given more attention and care to this subject, as many of our best butchers will not knowingly buy from those who have these *injured cattle*. I must confess that I have been caught sometimes with these cattle and with loss, the injuries not being always perceptible when living.

This carrying system should be improved upon. The cars should have "moveable stalls," and the cattle be tied head to the front, where they can be fed, out of moveable racks, and watered by running a trough in front of them at the watering places, and careful men to take charge of them.

This all will cost money, but the difference in the value of the animals, on their arrival in our market, will well pay the extra expense, and give pleasure, health, and more *satisfaction to the consumer.*

THOMAS, F. DEVOE.

Butcher, Nos. 7 & 8 Jefferson Market.

New-York, May 16, 1854.

SCATTERED all over the pasture field are small heaps of cattle droppings, which should be left to spoil the ground they cover. Fix out the boys with a small beetle or long-handled mallet, and send them into the pastures, and they will have fine sport in knocking to pieces and scattering about these cow heaps.—*Maine Farmer.*

False Coloring of Cheese and Cider.

I have not observed that this subject has even been noticed in the *Agricultural Gazette*, and yet it is well worth the consideration to the agricultural mind, and not less so of gastronomic intelligence. Can any of your dairy correspondents prove that coloring matter is beneficial to cheese; that this improvement in quality is equal to the expense and trouble? Does it either hasten or retard the ripening process of cheese? Does it allow cheese to be kept longer? From the few inquiries I have made in a dairy county, I have found that those most agate, in cheese-making give an exactly contrary opinion. They say that giving this color occasions considerable expense and trouble; they excuse themselves by saying that the factors would not buy their cheese without it; and I suppose that the factors would say that the retail dealers would not look at it; and these latter that their customers would not eat it. I am inclined to think that the consumer and retail dealer are the most answerable for the falsehood; for a lie it is, if beneficial or not, as long as the purchaser is allowed to believe that color is a sign of richness. It only amounts to culpable ignorance in the consumer, while the dealer shores up this ignorance by lies; and the cheese-maker cannot entirely escape a charge of countenancing, through self-interest, a cowardly device. On the part of consumers, I affirm my own positive opinion that uncolored cheese is by far preferable; pale cheese ripens better, and is of a better flavor than colored. In these days of reform, when all falsities are scouted, why should this one linger, as an active lie, in the land of truth? Let the motto "trust not to false appearances" descend to every day life and practice, and be engraved on uncolored cheese, and may the color of shame be permanently fixed in the faces of those who use such uncolorable artifices. Are cheeses to be looked at or eaten? If I am told that I am to have the pleasure of eating a rich cheese, I would rather judge of it by my palate than my eyes. This reasoning, perhaps may not seem quite so conclusive as regards cider, for Apples certainly have often a considerable color, but their juice has not the same, or if so, not enough to give a deep tint to the cider. I have never seen the best natural cider of a dark color, certain it is, that coloring is very extensively used; and what is used would be very difficult of discovery, for it is a less delicate operation with cider than with cheese; the digestion of the former is of a more comprehensive nature; after a short internal disturbance it settles, and is corked submissively down till used, and we will not trace its consequences further. In coloring cheese a kind of vegetable paste, said to be imported from Spain, is, I believe, universally used; but in cider, though the color may be often a vegetable dry and harmless, yet I should much doubt whether it be not often too mineral and unwholesome. Let the *Lancet* decide. Are we just then in blaming the Chinese, whom we are prepared to suspect of coloring their teas, while our own honest tradesmen do the same in a home production? I should be glad to see a confutation of these allegations in the *Agricultural Gazette*. I should be glad to be resolved (for it may be an erroneous idea) that all consumers of rich (looking) cheese, and strong bodied cider, are not, so far forth, fools; and the sellers of the same extent, knaves.—*J. C. Leyhart, Lapstein, in Agricultural Gazette.*

Don't Eat Horse-Radish too Freely.

It is almost hazardous to say anything against a condiment so universally used and relished as that, but a word of caution is needed. Horse-radish is highly stimulating and exploring to the stomach, and this effect is almost always followed by lassitude and weakness. We have met with several cases, where persons have ignorantly used this root so freely as to be scarcely able to labor at all.

Where it is needed as a medicine small quantity of horse-radish is doubtless beneficial. But we are quite sure, from considerable observation of its effects upon ourselves and others, that any person using a spoonful or more at a meal, will suffer in consequence, although the cause of this suffering may not be perceived, since it produces a stimulating effect for the first hour or two after eating it.—*Am. Agriculturist.*

McCormick's Reaper --Important Legal Decision.

We understand that in the case of Cyrus H. McCormick, vs. William H. Seymour and Dayton S. Morgan, (the Reaping Machine case,) which was tried in the Circuit Court of the United States for the Northern District of New-York, at

this city, in October, 1851, and in which the plaintiff obtained a verdict of over \$17,000, the Supreme Court of the United States has on a writ of error, reversed the judgement, by a vote of 3 to 4, and decided, 1st: That where a patent is for a part of a machine being public property, the patentee is entitled to recover damages only for the value of that part, and not for the value of the entire machine embracing that part; and 2d: That where a defendant infringes a patent by making and selling the pretended thing, the patentee is entitled to recover as damages, not the profits of manufacturing the patented thing, but only the patent fee for it.—*Albany Journal.*

Strawberries in Cincinnati Market.

Report of the Committee of the Cincinnati Horticultural Society on the Statistics of the Strawberry, and the quantity sold in the Cincinnati market, for the year 1846.

May 19th	10 bushels.	June 1st	100 bushels.
20th	20 "	2d	300 "
21st	20 "	3d	300 "
22d	25 "	4th	300 "
23d	55 "	5th	300 "
25th	20 "	6th	350 "
26th	250 "	8th	100 "
27th	200 "	9th	350 "
28th	200 "	10th	301 "
29th	250 "	11th	250 "
30th	300 "	12th	150 "

Total, for 22 days, 4,150 bushels.
D. K. CADY, Chairman.

Garget.

The best remedy for garget is, to let the calf run with the cow and suck it as often as possible. The next best which we have practised is, to take roots of the *bitter-sweet*—which is common in all our forests—cut them up fine, and steep them in hot water, making the decoction quite strong. Pour off this liquid, then mix it half and half with lard, rub the cow's udder and teats well with the mixture twice a day and milk her at least three times each day. Cold water is very good as applied by our correspondent, so is rubbing the udder with milk fresh drawn from the cow. But the hunting and frequent suckling of the calf is best of all. The cow should be turned into pasture, if not already there, and be allowed no other food than the young, tender grass, so long as the caking continues.—*Am. Ag.*

A Rival to Hemp.

The East India Company have forwarded to the Manchester (Eng.) Commercial Association some samples of certain fibrous grasses, said to grow in Assam and other districts of India. One of these samples is identical with the fabric known as China grass, and has been valued by Messrs. Marshall of Leeds, at £48 to £50 per ton. Another of the samples seems calculated to rival the Russian hemp, as in a recent experiment the former bore a strain of 345 lbs., while the latter could only sustain 160 pounds.

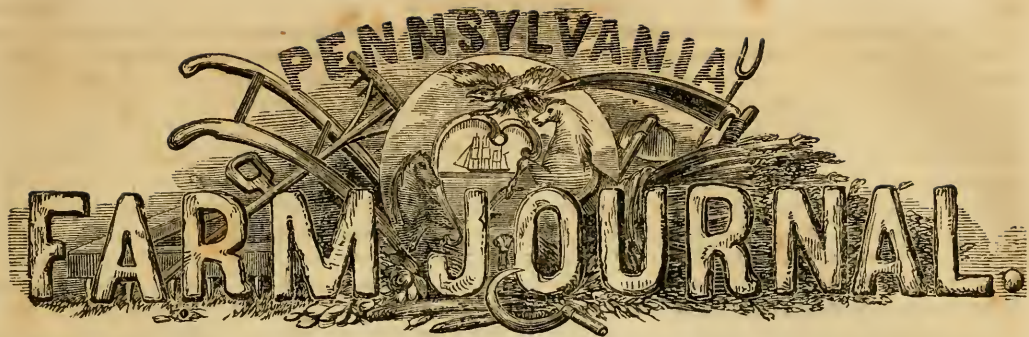
A Splendid Importation of Silesian Sheep.

CHAMBERLAIN, CAMPBELL & LADD, importers of Silesian sheep, received per steamer *Washington* sixty ewes and thirteen bucks.

We can now congratulate this firm on its present efficient organization. While the former partners will give it character in the east, western wool growers will recognize in the name of Wm. H. LADD a sure guarantee that the stock they import is not only of the first class of its kind, but that the description of sheep must possess intrinsic excellence of the highest order. We understand some thirty of these sheep will pass through our city in the course of a week or ten days on their way to Wm. H. LADD's farm. We shall try to see them and give our readers the result of our observation.—*Ohio Farmer, Cleveland.*

The Wire Worm Again.

C. P. Kimball, in the Rural New Yorker, says, "The garden of one of my neighbors was very much infested with wire worms. He happened to open a corn cob that had been in the ground, and found a number in the pith of the cob. He took the hint, and stuck two or three half cobs around each hill of corn, leaving one end visible above ground. In a few days he found from one to eight in each cob."



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For the Farm Journal.

Sweet Scented Vernal Grass.

As a question has been raised among agricultural writers, whether the excellent flavor of Philadelphia butter is owing to the cows having fed on sweet-scented vernal grass (*Anthoxanthum odoratum*), and inasmuch as the matter in dispute can only be satisfactorily settled by careful experiment, I would respectfully propose that one, two, or three, of our intelligent young farmers should take measures next spring to test the question conclusively. It is an interesting one, especially to our dairymen; and the exact truth ought to be ascertained, and made to supercede vague speculation and guess work. I would therefore suggest, that when the proper season arrives the butter from a healthy milk cow, which has had *no opportunity* to feed on vernal grass, be tasted by connoisseurs and its flavor carefully noted; that the cow be *then* put into a clean, wholesome stable, or yard, and fed *exclusively* and judiciously on *fresh cut vernal grass* for a week or two, or until there can be no question as to the source of her milk; then, of this *pure vernal grass milk and cream*, let there be another churning, and let the butter be tasted by the same judges, and the result made known. Such an experiment, I think, would satisfy every one; and any clever young farmer, who has the vernal grass in sufficient quantity on his land, could try it without much trouble. The *truth* of the matter is well worth knowing, more especially if the effect of the grass be as alleged; and I trust we have many young farmers in Chester and Delaware, where the fine flavored butter is made, who would cheerfully take the requisite measures to settle the question. The experiment proposed can scarcely be affected in any way by any prejudice, theoretic notion, or preconceived opinion, otherwise I should hesitate to mention, now, my own recent observations; for I have no desire to believe, or have others to believe, any thing but the *truth*. I may add, however, that I have long thought and remarked, that the vernal grass was not a favorite pasture with cattle; and I have this season particularly noticed some of the pasture grounds in this vicinity, where the stock had eaten the *meadow grasses* (*Poa*s) close, and left numerous patches of the *vernal grass* (*Anthoxanthum*) untouched. Others have made the same remark. Still, that does not quite determine the question concerning our good butter, and I shall be curious to have *that* settled. With respect to the "fine *aftermath* and rich autumnal pasturage," spoken of as furnished by the vernal grass, I can only say that I have not particularly ob-

served it; but, judging from the short, and comparatively scanty, *radical foliage* of this *Anthoxanthum*, I should expect the "*aftermath*" to be much inferior, in *quantity* at least, to that of the *Poa pratensis*. Any observing farmer, however, may readily determine its character for himself, if he will watch the condition of the vernal grass during the ensuing autumn; and the readers of the *Journal* will, no doubt, be glad to learn the result of such observations. W. D.

For the Farm Journal.

State Exhibitions and Premiums.

In 1851 there were sixteen premiums offered for one breed of cattle (Durhams), amounting to \$97; the same year there were five offered for one breed of sheep (South Downs), amounting to \$32. (I only allude to *breeding stock* in every instance.)

In 1852 there were sixteen premiums for the former, amounting to \$110; and six for the latter, amounting to \$28: here was an advance of \$13 on cattle, and a reduction of \$4 on sheep, which induced me to give my opinion of such matters in the sixth number of the second volume of this *Journal*. I neither attended the exhibition nor sent any stock to it. Last year I was induced to attend at Pittsburgh, in hopes I might have an opportunity of seeing how my Downs would compare with some fine ones lately imported and taken west, but I saw none there superior to my own. The number of premiums there was sixteen for Durhams, amounting to \$162, and for South Downs there were six, amounting to \$48; the first three I took and one of the second, which left but two second ones for the other competitors to contend for.

Now why, I would ask, is it that those who have the fixing of premiums should hold out so much greater inducements to the breeders of cattle than of sheep? Do they believe that first rate mutton is inferior to first rate beef? If so there is the more need to improve it. Now I believe it is really better, and that it would be to the interest of consumers to encourage the production of it rather than of beef. Our markets are already well supplied with good beef, but who can say in truth they are well supplied with good mutton? Does not our Pennsylvania hills and mountains present as fine sheep walks as any other State in the Union, and such as never can be so well applied to any other purpose as to the rearing of sheep? I would, therefore, most respectfully suggest to the committee who have the fixing of premiums, if they do *really* think that mutton is inferior to beef,

that they would at least increase the number of premiums, and say for the best buck of any age, second best do; best two year old, second best do; best yearling, second best do; best buck lamb, second best do; and continue the same number with the ewes and ewe lambs, which would still be eight less for Downs than for Durhams; so that if the premium for a good buck is only half that of a good bull, we may have more of them; besides, if I should ever be induced to show my Downs at another State exhibition, I should (as I told the judges of Downs at Pittsburgh) have no wish to carry off all the premiums.

At our next exhibition the premiums for Durhams number twenty-four (four more than last year), which amount to \$190; while the number for South Downs are but six, amounting to \$48. Now it is my decided judgment that it would be much better to increase the number of premiums in other departments; the more prizes and fewer blanks, the greater inducement that will be to both farmers and mechanics to assist in making a good display, and as *they* make the show (that makes the *cash show*) I believe many more of them ought to be recommended.

What interest can many feel in the proposed project of the Society purchasing land and establishing a high school, where young men are to be taught the trade of farming, probably after they have learned the trade of living without laboring? I would not have it thought that I am opposed to the Society purchasing a moderate sized farm near some town or city, where all the professional aid necessary might be obtained at a remunerating or ample salary. Place a good farmer on it, and if they should produce any thing very beneficial our practical men will not be slow to profit by it and communicate it to others, without expending a large amount of capital in a farm and fixtures in which the majority are not likely to feel much interest. These exhibitions are the *product of labor*, and if the funds derived therefrom are not distributed or applied in such manner as to give *general* satisfaction to the exhibitors, my impression is that they will soon dwindle into insignificance. The novelty may attract for a while, but the laboring community seldom relish that long.

And now, after having this much exposed myself, I feel disposed to add a little on the subject of selecting judges, as I have feared that it is seldom thought to be a matter of as much importance as it should be. The first requisite I conceive to be a qualification to judge of the true merits of the animals or articles examined, and the next is to be just as impartial, conscientious and upright as though he were under an affirmation to try a man for theft; and my belief is, if he does not thus act, and is through fear, favor or affection, induced to make an unjust decision, he is, in truth, a robber. The late Thomas Bates, whose reputation as a breeder of Durham cattle for the last twenty years has not been surpassed by any breeder in England, told me that he had not shown any of his stock for several years previous to the first Royal Exhibition, held at Oxford in 1839, (where he took all the first class prizes that he contended for,) because of the wrongs he had suffered through ignorance and injustice; and I feel quite satisfied (without alluding to myself in the remotest manner)

that some of our most spirited breeders in this country have avoided the risk of exposing their stock, because of the frequent occurrences of such cases in this country. The man who submits to act as a judge places himself in a very responsible, thankless, burdensome and laborious station, if he is disposed to perform his duty; and if he does not, he ought to remember there are perhaps hundreds present on such occasions whose judgment is quite equal to his own, and that, if there is any occasion to do so, will not hesitate to judge him as well as that he is to judge. I view the whole as a matter of innocent amusement if rightly conducted, and it is cause of regret that occasion should be given to any one to return home with wounded feelings.

And now, after assuring both editor and readers that although I feel quite incompetent to write for publication, yet, as it always affords me satisfaction to see the author's name appended, I shall subscribe mine; and I conceive this advantage at least by so doing, when my signature is seen, and my bungling style of writing is recollected, the reader can pass on and look for something more interesting, as I often do when I see an article without a signature, or perhaps only a single letter.

JOSEPH COPE.

Highland Home, near West Chester, Pa., }
11th of 7th month, 1854.

Hoo Sung.

MR. DARLINGTON:—Under the above name I have had in cultivation, for a number of years, a vegetable which I consider worthy of being generally cultivated. It was introduced originally from China, and through the kindness of a friend in Illinois (Dr. Kennicott) I first received the seed. It was represented to be a delicious substitute for asparagus, but not knowing the part used as such I have not until this season fully discovered its value. It is a species of lettuce, and while young used in the same way, but its greatest value consists (at least such will be the opinion of all lovers of asparagus) in being an admirable substitute for that most excellent vegetable when the plants are shooting up, and before it comes into flower; the stems being very tender, and when from a quarter to half an inch in diameter, and eighteen inches to two feet high, may be cut into lengths and cooked in the same manner as asparagus. I will not say that it cannot be distinguished from that vegetable, but I do consider it quite as delicious, and on the same space of ground where a dozen dishes of asparagus can be cut after three or four years of patient and high cultivation, *one hundred* may be cut of the *Hoo Sung* in *three or four weeks*! I have a small patch going to seed, which I will distribute to any who wish to make a trial of it, by letting me know their wishes. A pre-paid letter with a stamp, or pre-paid envelope enclosed, will ensure a return of the seed.

Yours, &c.,

J. B. GARBER.

Mountville, Lancaster co., Pa., June 25, 1854.

"Escutcheons of Cows."

[A subscriber, who takes an interest in the Guenon controversy, requests us to copy the following article from the Boston Cultivator:]

"Many of our readers have heard of Guenon's system of

deciding the qualities of milch cows by certain tufts of hair called *escutcheons*. The public announcement of this theory was made in France ten or twelve years ago, and it has since been disseminated in other parts of Europe, and in America, by means of pamphlets, charts, &c. M. Guenon assumed to be able to determine by these hair-marks, the *exact* quantity of milk a cow would give in a day, or a year. It was obvious enough to people of common sense, that whatever foundation there might be for his system, no such precision as he laid claim to could be maintained.

Having had extensive opportunities for the application of Guenon's system, we are satisfied in regard to the following points:—

1. There are some cows in which the external marks described by Guenon do not exist at all. Among these, superior milkers are not uncommon.

2. The greater number of cows have the so-called *escutcheons*, and among these, there is, in general, some correspondence in their milking qualities with Guenon's rules, though the agreement is not sufficient to justify his claims.

It results, therefore, that the system of Guenon is inadequate to form a proper guide for the selection of milch cows, because

1. It cannot comprehend all, and
2. It is imperfect in regard to those to which it does apply.

Besides the objections already given, there are others of still more importance. If it were admitted that Guenon's system is correct, it would evidently be an unsafe one to follow, without other aids, as it only proposes to judge cows by the quantity of milk they yield. Conceding that a cow may have the milking properties which the rule would allow, she may still be a very bad animal from which to propagate a stock. She may be large-boned, a great consumer of food in proportion to the profit afforded, and of poor constitution. A good, or really profitable breed of cattle, cannot be produced without strict attention to the points on which health and strength of constitution depend.

It may be said that Guenon derived the ideas which led to the formation of his system from actual observation. But it does not follow that the marks on the cows which he examined would apply to other races. Many external marks—as the length and appearance of the horns, the color, &c.—differ in the different breeds. The fifth toe in the Dorking fowl may be of use in that it denotes affinity with a valuable *family*, but cannot form a *rule* in judging other fowls. In applying Guenon's system (as we have lately done) to twenty Jersey cows, it was found that several, which are known to be very superior for dairy qualities, would be, if judged by their *escutcheons*, placed in the lowest ranks.

We have before us a translation of a work entitled "How to Choose a Good Milk Cow," by J. H. Magne, Professor of the Veterinary School at Alfort, France. The remarks of this author in regard to the value of Guenon's system are of so much importance that we make the following extracts. As showing the complication of this system, he says it "at present comprehends twenty classes, and 480 orders, and each of these 480 orders is understood to give a fixed quantity of milk, and continue to give it during a definite period!"

Having shown that the quantity and quality of milk depend in a great degree on "management, climate, the season, the temperament, the size and energy of the principal internal organs, the capacity of chest, the influence of the generative system, &c.," he says:—

"It might, therefore, have been argued *A PRIORI* that the mathematical precision, assigned to a classification of cows, is contrary to the most general laws of physiology; to pro-

pose a mark indicating that a cow will give so much milk daily, and for so many days, is to deceive ourselves, or to attempt deceiving others; the study of the phenomena of life proves that the action of the organs depends not only on their size and form, but on the general condition of each individual.

"We are able not only to oppose argument to the assertions of Guenon, but we can also appeal to the difficulties hitherto experienced in applying his classification to practice.

* * * * *

"All the attempts made on the Guenon method, not excepting those of the author himself, prove the soundness of our opinion. The most skillful, when called to decide on the quantities of cows whose yield of milk was well known, erred seven times on eight cows, and fifteen times on twenty-one. And lest these errors may be attributed to chance, on account of the small number of cows submitted for trial, we should mention that other estimates proved erroneous 152 times on 174 cows,* and 321 times on 352, and that the error amounted to 921 pints of milk on a total of 2683 pints,† in other words, there was error in regard to almost all the cows; and error amounting on an average, on each, to more than a third of the yield. On some individuals the estimates were wrong to the extent of from 17½ to 21, and even from 26 to 28 pints a day!

"Such is the truth as to the perfect nicety (*EXACTITUDE*) claimed for the *escutcheon* system. This system cannot do more than furnish an *APPROXIMATE* estimate of the quantity of milk, and that in regard not to all, but only to the majority of cows."

* Report to the Central Society of Agriculture by M. Yrart, in name of a Committee.

† Report to the Minister of Agriculture by M. Lefebvre Sainte Marie, in name of a Committee.

Best Time to Plant Trees.

[We extract the following excellent article by our friend THOMAS MEEHAN from the Germantown Telegraph. His experience gives weight to the recommendation for autumn planting, and fully coincides with the views we have long held, and with our own observations. We would only add one remark in addition to what he has so well said, viz:—that in fall planting it is *indispensable* that trees should be well *staked* and secured from being blown about by the high winds. This prevents the fibres from taking hold of the ground, and is often the cause of bad success with fall planting.]

So much has been said and written on this subject, that there seems to be little left to say or write. I have nothing new to offer, but aim at lending "fresh interest to a twice told tale."

The readers of the Telegraph will not, I am sure, consider the information very original, that of the numerous trees annually planted, great numbers die; but I am not so sure that they would not attribute the deaths to very opposite causes. Yet the facts of the "millions of cases" lie in a nut shell. I will explain.

At the outset let it not be forgotten, that to the roots of plants, small rootlets or *fibres* are attached; and that all fluids for the support of the plant have to be chiefly received through these fibres.

When a tree is transplanted, many of the fibres are broken off or damaged; and, if it has never been transplanted before, most of the fibres being at the ends of the principal roots, far away from the base of the tree, will be left in the ground, and very few come away with it. If the operation is performed late in the spring, the buds burst and the leaves unfold, they ask for moisture, and if the trees have an abundance of fibres, they get a fair supply; if they have few or none, they wither and wilt, and no matter how carefully planted, no matter how carefully pruned, mulched, or water-

ed afterwards, nothing but very extraordinary skill, indeed, can save them.

This is speaking of trees generally. Some trees have very spongy wood, in which moisture is stored or accumulated;—on this moisture they can subsist till the tree has had time to form new fibres. To this class belong the ailanthus, paulownia, catalpa, some poplars and willows. Others have half fleshy roots, and can draw a small amount of moisture from these for a time. The horse-chesnut, ash, lindens, many maples, and some evergreens, are of this kind. These do not suffer so certainly from the want of fibres, as the majority of trees comprising the numerous varieties of oak, hickory, birch, beech, chesnut, &c.

Now, as the roots of a tree are continually forming fibres, except when actually enveloped in frozen soil, it directly follows that the longer time we give a tree before the bursting of its buds, in which to establish itself after transplanting, the better able will it be to meet the demands of the foliage for moisture when the warm weather comes; and this brings me at once to the pith of the subject—the *advantage of Autumn Planting*. A tree planted as soon after the fall of the leaf as possible, will begin to form fibres at once, and continue to do so till spring calls the foliage into action, when the roots will be able to meet any ordinary demand made on them; at any rate it has a better chance than the same tree would have if planted in the spring.

I do not deny that spring planting has many favorable points of view. In my recent work on trees, I have freely granted this; and I would here even go so far with its advocates as to admit that in *some cases*, and in *skilful hands*, trees can be made to do better when planted early in spring than in the fall; but as a *general rule*, and in *general hands*, and for the reasons I have given, autumn is the safest, and in many cases the only safe time in which to remove trees.

I am aware that advice from a nurseryman often loses much of its weight, through his being supposed to be interested, and in the present case I am free to confess that I have an interest in the advice I have given. It is unpleasant to have one's customers come when the trees are actually in leaf, with "we bought some trees of ——— last season, but they died; we want to see if yours will do any better." Is it not, Mr. FREAS, enough to make any man look "wide awake," when his business reputation hangs on such slender threads; and need he blush to avow interested motives in taking every opportunity to diffuse sound practical information?

Germantown, June 13, 1854.

Alsike Clover.

We copy the following from the London Gardeners' Chronicle, and ask the attention of our readers to it. The seeds of this clover have been distributed by the Patent Office for a year or two, but we have not heard of any one giving it a fair trial.

The following is from a printed circular: "Alsike," or Perennial Hybrid Clover Seed, is indigenous in Sweden, where it has been cultivated in the native pastures of that country for the last hundred years, and has in some cases been known to grow to the height of five feet, although in England it attains only that of two feet. The root is fibrous and the heads globular. The plant bears a greater resemblance to the white than to the red clover; and although its stems are recumbent, they do not root into the soil like those of the white clover; in short, it may be described as a "giant" white clover, with flesh-colored flowers. The plant yields two mowings annually. Linnæus observed the Alsike clover growing on poor, bare, obdurate clays in the Morea, where no other plant could be made to vegetate; and yet, under such unfavorable circumstances, this clover flourished with an uncommon degree of luxuriance, and yielded shoots as tender and succulent, although not so abundant, as if reared in the most richly-manured fields. Micheli mentions the plant as growing in open situations on a clayey soil, and as being, in his opinion, worthy of cultivation. Sturm says it is found in Holland, and that he tried its cultivation along with that of a great number of other clovers, placed under the same circumstances, and that the result convinced him that there is no other kind of clover equal to it for the purpose of feeding cattle. The red clover will last only two years in perfection, and often, if the soil be cold and moist, nearly half of the plants will rot, and in the second year

bald places will be found in every part of the field; besides that, in September and October many crops left for seed are lost in consequence of the heavy rains during that period; while the Alsike clover, on the contrary, ripening its seed much sooner, and continuing in vigor much longer, much risk and expense are avoided, and a larger profit accordingly accrues. Further, when this plant is once established, it will remain for a great many years in full vigor, and produce annually a great quantity of herbage of excellent quality. The best method of disposing of the Alsike clover crop is either by mowing it for hay, cutting it occasionally as green food, or feeding it down with sheep, in which latter case it may be turned on sooner than any other clover; and if eaten down quite bare, and the stock taken off the first week in June, the next crop will come sooner to the scythe than any other species of clover so treated; and if saved for seed, the seed will be ripe sooner than any other, and the plant will again afford a good bite for the sheep until the land be required to plow for wheat—a heavier crop of which is invariably produced after Alsike than any other clover. If mown for hay, it should be cut as soon as most of the heads are in full bloom, and before they begin to turn brown and die away. Observe the foliage in the lower parts of the plants—when the leaves turn yellow, decay and drop off, the crop should be cut; for by standing longer, the plant will lose more at the bottom than it gains at the top. The weight of the seed required to be sown is, according to circumstances, from ten to fifteen pounds per acre, an extent of crop which will produce many tons annually of green herbage, independent of a crop of seed. The hardy nature of the plant is proved by the fact of its thriving by transplantation; it will admit of being taken up at the expiration of two or three years and planted in any other situation; the plant when taken up is merely divided, and its fibrous roots cut a little with a pruning knife; so that the farmer need never be at a loss for a crop of clover. The Alsike does not suffer from the severest frosts; it will flourish on the most barren land, where few grasses will grow at all, producing a heavy crop of seed, and affording an abundance of nutritious herbage for horses, oxen, and sheep; and when land has become clover-sick, and cannot be depended on for a crop of the ordinary sorts of clover, this has never been known to fail.

Using Corn for that which is not Bread.

The whiskey manufacturers of Ohio, recently held a convention in Cincinnati. It appears that twenty-three establishments were represented. These twenty-three use up 14,000 bushels of grain every day! This makes over five millions of bushels in a year, and these twenty-three establishments are but a small part of the whole of them. This is using bread to destroy bread. Thousands by using the whiskey thus made, find themselves and children starving for want of the grain of which it is made.

Animals Foretelling the Weather.—Instinct and Reason.

It is said that the woodcock in New Jersey is building its nest, this year, in open and moist places; and old huntsmen predict in consequence that the summer will be a dry one. There was a time when science, or what was called such, laughed at signs of this description, as no better than "old womens' tales;" but though many of them are still unreliable, a larger observation of nature has taught that animals have an instinct, which not unfrequently becomes prophetic, as in this example. At last year's meeting of the American Association for the advancement of Science, a curious paper was read on this subject, by Mr. N. B. Thomas, of Cincinnati, who had, for several years, studied the habits of animals in reference to the indications which they might afford respecting the weather. He showed that birds, if the season was to be a windy or wet one, built their nests in sheltered places; but, if it was to be dry, in localities more exposed; that certain kinds of snails always came out, and crept up the limbs of trees several days before rain;—and that locusts, wasps and other insects were invariably to be found under leaves, and in the hollow trunks of trees, hours before a storm set in.

The sagacity thus displayed, if we may call it such, seems to put the higher reason of man to shame. In vain do our most expert *savans* endeavor to predict the character of an approaching season, or even to foretell, a few days in advance, the condition of the weather. The woodcock that

unerringly fixes its nest in the spot best suited for the coming summer, or the snail whose tubercles begin to grow ten days before the rain they are preparing to receive, appear, at first sight, to surpass the more developed men. But the inferiority of those lower orders of animals is in the quantity of their endowments, rather than in the quality; they have a single faculty developed to an extraordinary degree, while man has, as it were, faculties almost infinite. In thus adapting each organization to its special position, the wisdom of the Creator is forcibly exhibited.—*Philada. Ledger*,

Sulphate of Ammonia for Plants.

There seems to be but little doubt that this article is a most valuable stimulant for promoting the health and vigor of bedding out plants in the garden. Our attention was attracted to the subject some time ago by reading an article in the *Gardeners' Chronicle* (Eng.) on the use of Ammonia, and the high encomiums bestowed on the Sulphate of Ammonia by a correspondent of the *Horticulturist* a year or two ago. We give below extracts from both articles, that our readers may understand how the application is made to the plants:

By Mr. Deane, Vice President of the Pharmaceutical Society: "My attention was first effectively turned to the subject about eight or ten years since, when an extensive grower of Pelargoniums, Fuschias and Roses, applied to me for some remedy for the sickly condition of his stock, which, if left unchecked, would insure a very severe loss to him. On examining the plants they were found to be in a starving condition, the roots having filled the pot and exhausted the soil; consequently the leaves had lost their healthy green color and become very pale with a strong tinge of yellow; the lower leaves were quite spotted, yellow and falling off. The natural remedy was obviously fresh potting, but as the plants were already in pots best adapted to the purposes of the grower, some other remedy had to be devised. I therefore made a very weak solution of Sulphate and Carbonate of Ammonia, and therewith watered the roots of the plants once a day in the evening; and to insure any observed results as to the effect of the ammonia, certain rows of the plants were selected for the experiment. In a few days the effects of the ammonia were most marked and satisfactory. The leaves began to put on a very remarkable appearance, the course of the vines or spinal vessels becoming perfectly green, the color spreading through all the reticulations, until the tissues were restored to their healthy condition. In fact the plants thus treated looked more vigorous than they had ever done before, being much darker in color and firmer in texture. The contrast between these plants and those which had received no ammonia left no doubt about the efficiency of the application.

"I forget the effects upon the flowering of the Pelargoniums, but there was certainly no deficiency of flowers upon the Fuschias and Roses; they were moreover finer and better colored than usual. The following is the formula for the solution applied by Mr. Deane:

Sulphate Ammonia,	14½ oz.
Carbonate do	2 "
Water,	4 pints.

Of this solution, one fluid ounce to a gallon of water will make a solution sufficiently strong for all ordinary purposes.

The correspondent of the *Horticulturist* says:—"I am confident many of your lady readers, and perhaps those of the other sex, are puzzled to choose among the many new manures, and having failed with some, and injured their plants with others, they end by raising only sickly and meagre plants, when they might have them presenting a luxuriant and satisfactory appearance, with leaves of the darkest green, and flowers or fruit of double the usual size.

Having made a trial for three years past, with a perfectly safe and satisfactory liquid fertiliser, which appears to suit all kinds of vegetation, which is clean and easily applied, and procured without difficulty, in any town, I confidently recommend it to your readers, especially those who wish to give special pains to, and get uncommon results from, certain favorite plants, either in pots or in the open garden, plants whose roots are in such a moderate compass that they can be reached two or three times a week, if not oftener, by the watering pot.

This liquid fertiliser is made by dissolving half an ounce of the Sulphate of Ammonia in a gallon of water. Nothing so good or can be cheaper, and the substance can be obtained at almost any apothecary's.

Now for the mode of using it. I say at the outset that weak as the solution appears to be, and is, if plants are watered with it daily, they will die, just as certainly as a man would if he drank nothing but pure brandy.

The right way to apply it, is to water the plant with this solution every sixth time, the other five times with plain water. The proportion is so simple, and the mode of using it so easy to understand, that the most ignorant person cannot possibly blunder about it, if he can count six. If we water our plants with the solution every Saturday, and all the rest of the time with plain water, we shall have a safe rule.

The result, I am sure, will delight and surprise every person who will make a trial of it. It has become such an indispensable thing with me that I regularly mix a barrel of it every Friday, and use it on Saturday, upon any plants that I particularly wish to invigorate and stimulate. I do not know that I have known a single instance of its disagreeing with any plant, ammonia being the universal food of vegetation. Of course, the more rapid growing plants, those with foliage that perspire a great deal, are most benefited by it. Of course, also, plants that are at rest, or not in a growing state, should not be fed with it; but any plant that is about starting, or is actually in a growing state, will not fail to be wonderfully improved by it. I will enumerate some of the things I have had success with.

Strawberries.—Beds of indifferent appearance at the opening of the spring, last season, after being watered four times with this solution, grew very luxuriantly, and bore a crop of remarkably fine fruit. I have repeated the experiment on half of every bed; both foliage and blossoms are as large again on the watered as on the unwatered portion. By way of comparison I watered some with plain water also, and find that though rather benefited, (for the strawberry loves water,) they have none of the depth of verdure and luxuriance of those watered with ammonia.

Early Pears.—At least a week earlier than those watered, and much stronger in leaf and pod.

Dwarf Pears.—Some sickly trees, that I have given the best attention for three years without being able to get either good fruit or healthy foliage, after being watered four times with the solution—of course with the usual intermediate supply of common water—became perfectly healthy and luxuriant, and have ever since (two years) remained so.—*Iowa Farmer*.

The Digging Machine.

An implement under the above designation, invented by Mr. Matthew Gibson, of Newcastle-upon-Tyne, already known to agriculturists as the originator of the Patent Northumberland Clod Crusher, has been daily at work for several weeks past on the farms of Sir Hedworth Williamson, Bart., at Monkwearmouth, and of Mr. Barnes, at Whitburn, near Sunderland. During the past week the powers of this admirable appliance to agricultural tillage have been further tested on the farms of Mr. T. T. Hall, of Ovingham, Tyne-side; Mr. R. W. Swan, of Wallsend, and Sir W. C. Trevelyan, Bart., of Washington, Northumberland. Its powers, in all the trials referred to, were exhibited on tough clayey soil, and working at a depth of nine inches, at the rate of three-quarters of an acre per hour, with four horses, throughout the whole day, with no more exertion than that required for ordinary plowing. The implement consists of a number of cylinders of about three and a half inches in diameter and six inches long, revolving on a fixed axle. On each of the cylinders is cast a disc, twelve inches in diameter, which is furnished with ten teeth, or prongs, of hardened malleable iron or steel, of a curved or cat-claw form, springing from its periphery, and which, partly by the weight of the implement, and partly by the strain of draught, is forced into the ground, and, as the implement advances, digs or forces up the soil—in fact, each prong performs precisely the office of a pick or hack in loosening the soil. This forking up or loosening of the soil is not the only important office of the implement, but from the curved form of the teeth, it brings all roots and fibrous matter within the depth of its operation to the surface, thus producing a clean as well as a free tillage, or at once acting most effectively as a grubber in bringing up root-weeds, and at the same time performing the most important function of the plow in aerating the soil. The implement is mounted on a strong frame, partly of cast and partly of malleable iron, and furnished with a simple but most ingenious apparatus for regulating the depth of its working in the soil.—*Mark Lane Express*.

Squashes and Pumpkins.

BY THADDEUS W. HARRIS, HARVARD COLLEGE

I am now acquainted with ten different kinds of pumpkins and squashes belonging to the same group as the Valparaiso, Cuba, and Marrow.

1. The mammoth pumpkin of Potiron (*Cucurbita maxima*.) The fertile flowers have five stigmas, and the fruit five carpels; having raised it in my own garden during the past summer, I can vouch for the fact.

2. A glaucous or greyish-green pumpkin or squash, more or less turbinate or top shaped, growing to a large size (three and a half feet or more in circumference,) mistaken by some seedsmen for the mammoth pumpkin. It was raised in my garden in the summer of 1851, and was found to have four or five stigmas, and the same number of carpels.

3. Mr. Cole's Connecticut pie-squash or pumpkin. Spherical or spheroidal, three and a half feet in circumference. Raised in my garden in the summer of 1851. Stigmas mostly four; in a few flowers, five. Carpels mostly four; a few of the fruit had five.

4. Elongated Valparaiso squash, tapering very much at each end, striped longitudinally with white. Raised from Valparaiso seed in the summer of 1815, in my garden. Stigmas and Carpels five in number.

5. The common ovata Valparaiso I have not raised; but have bought and cut many specimens, in all of which I found four carpels. I examined the young fruit, growing in grounds of my friends, and found, often, five carpels.

6. The autumnal marrow, introduced into notice and used by Mr. Ives, of Salem. This forms an exception to the general rule in the fruits of this group; having ordinarily only three carpels, and but three stigmas. Four in some cases are, however, to be found, as already stated.

7. The Cushaw squash probably introduced from Louisiana where it was known and cultivated more than one hundred years ago. It is mentioned by Le Page du Pratz, in his *Historie de la Louisiane*, vol. ii., p. 11, by name of *Gironon en forme de corde-chasse* (hunting horn,) and by the translator of the work by the vernacular name of *Cushaw*. This is a crook-neck squash, with permanent nipple-formed style, and stem like that of the marrow. It has only three carpels, at least I found but three in the few specimens that grew in my garden in 1852. It is so tender and delicate, that it rots in our climate before it becomes fully ripe.

8. The Aern-squash, evidently nothing but a variety of the one called by French writers *Le Pepon turban* (*Cucurbita pitiformis* of Duchesne.) Fine specimens were raised in my garden in the summer of 1851. It is the heaviest squash of its size that is known to me, and one of the best flavor. Flowers mostly with five stigmas, some with four; carpels five or four.

9. Mr. Stetson's Cuba squash. Though I have not yet cut it, I am convinced from its external characters that it must contain five carpels.

10. Mr. Dunn's rough-skinned pumpkin or squash, weighing one hundred and fifty pounds, which was exhibited at the last annual Horticultural Exhibition. This probably had five carpels—if its external characters are to be relied upon. Coquimbe squash, and Mr. Pope's California squash, which were exhibited last September. The number of carpels in those unknown to me, not having seen them cut. Probably in both will be found more than three carpels.

I have enumerated these kinds in order to show that the ground, characterized by me, has been established upon personal examination and decision of the most of the known varieties; and that the character of five or four stigmas and the same number of carpels (rarely three) is one which prevails in this group.

Henceforth it has generally been understood and is so stated by most botanists, that pumpkins and squashes were originally natives of Asia. On the contrary, I find in ancient works abundant evidence that they were unknown in the Eastern Hemisphere before the discovery of America, and that they were originally natives of the tropical and warm parts of America, and that they were extensively cultivated by the native Indians from Canada to Chili, before any European settlements were made on this Continent.

After a very careful examination of the plants and the fruits of as many kinds as I could obtain or raise, I have discovered certain distinguishing characters which will enable us to class all of them in three natural groups. These are:—

1st. Summer squashes—such as the broad scalloped, the

long and warted, the round or orange, the variegated or gourd squashes, and various other kinds. Most of these (but not all) have upright vines which do not run, (hence sometimes called bush squashes,) and small or feeble tendrils or claspers. Their leaves are very rough, and mostly five lobed (like a grape vine leaf.) The fruit when cut across is found generally to have five double rows of seeds; more rarely, only three double rows. The fruit-stem is enlarged next the fruit, and is deeply five furrowed and five-angled. The fruit (which ripens early) is fit to be eaten only in an unripe state, or while it still remains tender. When fully ripe, the rind becomes whitish or pale, hard and brittle, like a gourd shell; and the pulp is dry and spongy. The seeds are small and thin, and of a grayish or dirty yellow color.

2d. Pumpkins and winter squashes—including our common New England field pumpkins, the crooked-necked squashes, the custard squash and many other kinds. All these have running vines, with strong branched tendrils or claspers, very rough more or less deeply five lobed leaves, and a five furrowed and five angled fruit-stem, which is very much enlarged towards the fruit. On being cut across, the fruit is found to have only three double rows of seeds. The fruit is fit to be eaten only when fully ripe, and it may be kept, with care, all winter. It does not dry up like summer squashes, but finally rots and becomes soft and spoiled throughout. The rind, mostly thin and tender, never becomes dry, woody, and brittle; and the pulp remains fleshy and succulent till it decays. The seeds are larger than those of summer squashes but are also thin and grayish or yellowish.

3d. Nippled pumpkin and squashes—such as the Mammoth pumpkins or potiro, your Cuba squashes, Valparaiso squashes, acern squash, the autumnal marrow squash, and some others. All these have running or climbing vines, with strong branched tendrils. The leaves are rather soft, some of them as soft and velvety as those of the mellow; they are never deeply lobed, but more often nearly round or heart-shaped. The fruit stem is short, thick, angled, but not five angled and not five furrowed, and when green is nearly as thick at one end as at the other. The fruit when cut across, is found generally to have four or five double rows of seeds, more rarely three double rows; and I have found this smaller number only in the autumnal marrow squashes, and it is by no means a constant character even in them, four or five double rows being occasionally found in them. The fruit is fit to be eaten in autumn and winter, and only when fully ripe. It is always distinguished, however various the shape and size, by having a small nipple-like projection at the blossom end, this projection being the permanent style of the blossom, the rind, which is generally remarkably thin and tender, never becomes hard, dry, woody, and brittle. The flesh often of a rich orange color, and remarkably sweet and fine grained, never dries up or becomes spongy like that of summer squashes, but remains succulent till it rots. The seeds are large, broad, thick or plump, mostly of a beautiful color; but in certain very dark fleshed varieties, the seeds are of the color of old ivory cream colored.

Now, I am strongly inclined to the belief that all the pumpkins and squashes of this third division were originally natives of the western side of America, as Chili, Peru Mexico and California. Some of them have doubtless been introduced into the West Indies, whence they occasionally are brought to our markets.—*Journal U. S. Agricultural Society.*

Domesticating Strange Animals.

Geoffrey Saint Hilaire, and other eminent naturalists in France, are beginning to turn their serious attention to the acclimation or domestication of animals which have hitherto been totally unknown to Europe, or known only as objects of scientific curiosity: Within the month they have received for the Jardin des Plantes, a number of Yaks from China—an animal which Buffon says “is more precious than all the gold of the New World.” In Thibet and China this animal serves as a horse, an ass, a cow, and a sheep; he bears heavy burdens, draws large loads, supplies milk, has flesh which is excellent, and hair which can be wrought into warm clothes. To naturalize him therefore, in Europe, would be an immense service to mankind, and as he bears cold bravely, the French naturalists have every hope that they will be able to do so, though, by the way, the late Lord Derby made the attempt and failed. Some Chinese have been brought over to attend the Yaks.

Hymn to the Flowers.

BY HORACE SMITH.

Day stars! that ope your eyes with morn to twinkle
From Rainbow galaxies of earth's creation,
And dew-drops on her lovely altars sprinkle
As a libation!

Ye matin worshippers! who, bending lowly,
Before the uprising Sun, God's lidless eye,
Throw from your chalices a sweet and holy
Incense on high!

Ye bright Mosaics! that with storied beauty,
The floor of Nature's temple tessellate,
What numerous emblems of instructive duty,
Your forms create!

'Neath cloister'd boughs, each floral bell that swingeth,
And tolls its perfume on the passing air,
Makes Sabbath in the fields, and ever ringeth
A call to prayer!

Not to the domes, where crumbling arch and column,
Attest the feebleness of mortal hand,
But to that Fane, most Catholic and solemn,
Which Heaven hath plann'd—

To that Cathedral, boundless as our wonder,
Whose quenchless lamps the sun and moon supply,
Its choir, the winds and wave, its organ, thunder,
Its dome the sky!

There, as in solitude and shade, I wander,
Through the green aisles, or stretched upon the sod,
Aw'd by the silence reverentially ponder
The ways of God—

Your voiceless lips, O flowers! are living preachers!
Each cup a pulpit, every leaf a book,
Supplying to my fancy numerous teachers,
From loneliest nook!

Floral apostles! that in dewy splendor,
"Weep without woe and blush without a crime,"
Oh! may I deeply learn, and ne'er surrender,
Your lore sublime!

"Thou wert not, Solomon! in all thy glory,
Array'd," the lilies cry, "in robes like ours;
How vain your grandeur! ah, how transitory
Are HUMAN flowers!"

In the sweet-scented pictures, Heavenly Artist!
With which thou paintest nature's wide-spread hall,
What a delightful lesson thou impartest
Of love to all!

Not useless are ye, flowers, though made for pleasure,
Blooming o'er field and wave by day and night;
From every source, your sanction bids me treasure
Harmless delight.

Ephemeral sages! what instructors hoary,
For such a world of thought could furnish scope!
Each fading calyx, a MEMENTO MORI,
Yet fount of hope!

Posthumous glories! angel-like collection,
Uprais'd from seed or bulb, interr'd in earth,
Ye are to me a type of resurrection
And second birth!

Were I, O God! in churchless lands remaining,
Far from all voice of teachers and divines,
My soul would find, in flowers of thy ordaining,
Priests, sermons, shrines!

Late Sown Vegetables.

Some of the greatest delicacies for table use may be obtained from quite late sowings. We can speak most positively in regard to turnips. Both the round and flat turnip may be sown at any time in July or August, and we have known it come to considerable maturity in a season in which there was no early frosts, when sown in the first week of September. Special pains should be taken to enrich the soil, for in this way we secure two objects—the more rapid growth of the plant, and a sweeter and more tender vegetable. We suppose it is generally known that the more rapid the growth of this and several other vegetables, the more

mild and tender they are to the taste. Cabbages, onions, radishes, squashes, cauliflower, are all much more delicate in flavor, and agreeable to the palate when grown freely and rapidly, than when their growth is stunted or slow. Cucumbers and celery may also be added to the above named, as being much milder when grown rapidly than when of slow growth. Some of these may be raised late in the season, as well as turnips, so as to supply the table with the delicacies of spring and summer until quite late in the fall and winter.

By the end of July and in the course of August, there will be vacant places in the garden and field, which it will be good economy to sow with turnips. There will be, at all events, the pea and early potatoe ground; these and other such patches may be sown with round or even flat turnip, and thereby, we will be making provision both for our family and stock. What we do not use for the table will be well relished by our cattle; and cows which have a tolerable supply will not dry up so early as cows that have no green feed. —*Country Gentleman.*

Variety of Food Necessary.

It is in vegetable as in animal life; a mother crams her child exclusively with arrow-root—it becomes fat, it is true, but, alas! it is rickety, and gets its teeth very slow, and with difficulty. Mamma is ignorant, or never thinks, that her offspring cannot make bone—or, what is the same thing, phosphate of lime, the principle bulk of bone—out of starch. It does its best; and were it not for a little milk and bread, perhaps now and then a little meal and soup, it would have no bones and teeth at all. Farmers keep poultry; and what is true of fowls is true of cabbage, a turnip, or an ear of wheat. If we mix with the food of fowls a sufficient quantity of eggshells or chalk, which they eat greedily, they will lay many more than before. A well-fed fowl is disposed to lay a vast number of eggs, but cannot do so without the materials for the shells, however nourishing in other respects her food may be. A fowl, with the best will in the world, not finding any lime in the soil, nor mortar from walls, nor calcareous matter in her food, is incapacitated from laying any eggs at all. Let farmers lay such facts as these, which are matters of common observation, to heart, and transfer the analogy, as they may do, to the habits of plants, which are as truly alive, and answer as closely to every injudicious treatment, as their own horse.

To Raise Giant Asparagus.

A writer in one of the early volumes of the Horticulturist, (Mr. Downing we believe,) tells how to grow common asparagus so that it will always rival giant production. He says:

Every one who has seen my beds, has deged me for seed—thinking it a new sort—but I have pointed to the *manure heap*—(the farmer's best bank,) and told them that the secret all laid there. The sight was only such as might be in every garden.

About the first of November—as soon as the frost has well blackened the Asparagus tops—I take a scythe, and mow all down close to the surface of the bed, let it lie a day or two, then set fire to the heap of stalks: burn it to ashes, and spread the ashes over the surface of the bed.

I then go to my barn-yard; I take a load of clean, fresh stable manure, and add thereto, half a bushel of hen dung: turning over and mixing the whole together throughout. This makes a pretty powerful compost. I apply one such load to every twenty feet in in length of my asparagus beds, which are six feet wide. With a strong three-prong *spud* or fork, I dig this dressing under. The whole is now left for the winter.

In the spring, as early as possible, I turn the top of the bed over lightly, once more. Now as the asparagus grows naturally on the side of the ocean, and loves salt water I give it an annual supply of its favourite condiment. I cover the surface of the bed about a quarter of an inch thick with fine packing salt; it is not too much. As the spring rains come down, it gradually dissolves. Not a weed will appear during the whole season. Everything else, pigweed, purslane, all refuse to grow on the top of my asparagus beds. But it would do your eyes good to see the strong, stout, tender stalks of the vegetable itself pushing through the surface early in the season. I do not at all stretch a point when I say that they are as large around as my hoe handle, and as tender and succulent as any I ever tasted. The same round of treatment is given to my bed every year.

Guenon's System.

In looking over a late number of the Boston Cultivator, I see an article on "Guenon's Discovery for Judging Milk Cows," which seems quite at variance with your correspondent's ("Science") remarks on this subject, and also with my own experience as far as it has gone. Article 1st: "There are some cows in which the external marks described by Guenon do not exist at all. Among these, superior milkers are not uncommon." A thing I have never met with. I have read Guenon *carefully*, and made several examinations, and have *never* in my experience met with a good milker that was not a well marked cow (constitution and form being taken into consideration). I have never met with a cow in my observations that has not some mark as described by Guenon about her. I am acquainted with a drover that sells on an average 1000 cows a year, and he has taken pains to study Guenon and apply it. For the last four or five years he says he has not met with a good cow that was not marked according to the *book*, and that he can always obtain a better price for a well marked cow than an inferior one, for they always give satisfaction. I wish the article in question had been more explicit, and stated whether the person in question, who made the examinations, knew a "bastard" (so called) from a *genuine* cow, and if any of the cows he met with, that he said were well marked and inferior milkers, were not touched with "bastardy." A close observer can soon distinguish one from the other, and this is a most important part of the discovery. Till something appears, more convincing than the article above mentioned, I am still a believer in

"GUENON."

The above communication is from one of our practical men, who, like our correspondent "Science," has fully tested the truth of Guenon's system. Indeed, the farmers and dairymen of this section, having the evidence of their own experience, *cannot* be argued out of it. The article referred to above from the Boston Cultivator appears as editorial, and is probably from the pen of Sanford Howard, whose knowledge of stock and ability as a writer entitles his remarks to consideration. As the subject is one of great importance to the farmer, supposing Guenon's system to be true, we are willing it should be fully canvassed, *pro* and *con*, in our Journal. Although not ourselves fully posted up in the science, having never *studied* it, and depending for our belief on what we have *seen* and *known* of its application by those who *have* studied it, and whose *success* in selecting cows is a matter of notoriety to farmers throughout this dairy district, we have been surprised at the assertions in the article in the Boston Cultivator. The editor says, "the most *skillful*, when called to decide on the qualities of cows whose yield of milk was well known, erred seven times on eight cows, and fifteen times on twenty-one. Other estimates also proved erroneous 152 times on 174 cows, and 321 times on 352, amounting to 921 pints of milk, on a total of 2,638 pints; in other words, error in regard to almost all the cows, amounting on an average to more than one-third of their yield." Now are not these discrepancies and contradictions most extraordinary; the editor's experience on one side, who proved the system erroneous 7 times out of 8, and 321 times out

of 352, and that of the drover alluded to by our correspondent above, and whom we have also long known as a highly respectable and reliable man, selling 1000 to 1200 cows a year, and who, in all his large experience, has proved it *entirely correct*.

Well may the uninitiated be puzzled to arrive at the truth. The fair presumption would seem to be, that "the most skillful persons" referred to knew very little, or very imperfectly, the minute, though distinct and palpable, differences between Guenon's classes and orders, and that their failures should not weigh against the other proof, for the very obvious reason that *negative* evidence should not weigh against *positive*. This is a rule of law as well as of common sense. A person who had never read Guenon's work at all, but had some indefinite knowledge of it acquired by hearsay, might fail in 999 cases out of 1000, yet this failure should not affect the truth of the discovery so much as the *positive* fact of a person being able to identify good cows by these marks in nine cases out of ten, or, as in the case of the drover, with some four or five thousand cows within the last five years.

What can the Boston Cultivator say to the evidence on the very satisfactory trial of the Philadelphia Agricultural Society, in the presence of hundreds of witnesses, sanctioned and confirmed by the signatures of the very respectable and intelligent committee—many of whom were previously prejudiced against it, and who from their well known standing here, were of all others the least likely to be deceived. The examiner (Nefflin) was a stranger to nearly all present, had never before seen the cows, and there could not have been a more thoroughly *impartial* test, and the same may be said of the numerous trials in France, all equally substantiated. This is *positive* testimony, the other is *negative*. The inference is fair that the failures have resulted from want of a thorough understanding, or examination, of the marks laid down in the book, and confusion between those indicating genuine and bastard cows and the different classes and orders. We ourselves doubt the possibility of defining to the exact number of pints or quarts, which a cow may invariably yield, as these may be affected by various other controlling causes. A good cow may be entirely ruined by bad milking, or she may have a bad constitution, or she may be addicted to abortion, all of which will affect the quantity of her milk, but we value the system highly as an *approximation* to correctness, more infallible than any other points of choosing a good milch cow, and have found it most especially valuable in determining the *length of time she will go dry*, quite as important a matter as deep milking, and which is not pretended to be attempted by any other points of selection we are acquainted with.

The whole question, at last, is very much one of *fact*, which all farmers have the means of determining for themselves. We advise all to do as farmers in this section *have done*, examine and prove the thing for themselves.

It has been said that those who buy by Guenon's marks also observe *other* points, which are generally recognised as indicating a good cow. This is partly true as they *do* pay attention to general form, constitution, &c., but do not regard them so *certain* as the others, and

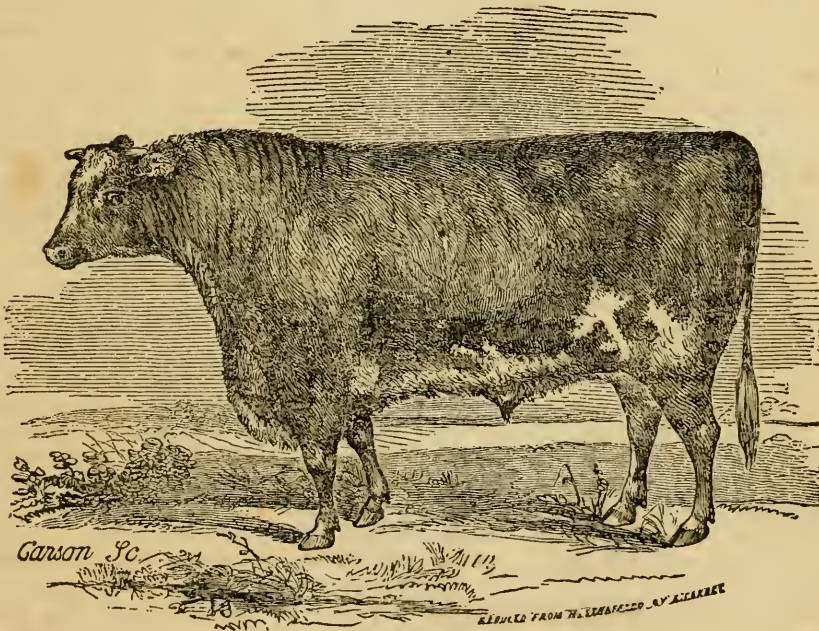
in cows which have all these they often discover certain marks of "Guenon's system," causing them to be rejected entirely, and also find Guenon's marks, indicating very desirable properties, in cows which would be otherwise rejected by nearly all.

Thick and Thin Sowing.

We observe in one of our foreign exchanges some discussion on the above subject. One farmer, who thinks we are in the habit of sowing our seeds too thick, observes he has proved this season that single grains of wheat, at the extreme distance of three feet apart, will yield eighty perfect ears, containing fifty kernels each, or more than *four thousand fold*. This is ten quarters per acre (about eight bushels) from two pints of seed. He also says he is prepared to prove that isolated plants *one foot* apart, at about six pints of seed per acre, will produce as great a crop, but if planted closer it is an utter impossibility, as the plants then cannot perform their natural capabilities. He also asserts that every grain of either wheat, barley, or oats, sown in Great Britain, does not yield forty fold from each grain, simply from its extreme thickness. He further says that mildewed crops, the result occasionally of thin sowing,

may be prevented by sowing early. These are rather startling assertions, and well worthy of attention and experiment here. One argument in favor of thick sowing is that a large portion of the seeds of wheat, oats, &c., are imperfectly covered, and the vegetative power lost by exposure. The increasing use of the drill, which covers more regularly and evenly than broadcast sowing, may obviate this objection, and we should like to hear of careful comparative experiments on the subject. The art and science of farming are not yet perfected. We believe there is much yet to learn.

Speaking of thin sowing reminds us that within a few days we have heard of an excellent crop of wheat, grown from an application of a little over fifty pounds of guano to the acre. It was sown by the guano attachment to Pennock's seed drill, being deposited in the drill at the same time with the wheat and through the same tube. So small a quantity was not injurious in contact with the seed, and none was lost by either exposure to the atmosphere or imperfect covering. This guano attachment to Pennock's drill, which before seemed as perfect an implement of the kind as could be wanted, we have heard highly spoken of. It will drill in from fifty to one hundred and fifty pounds per acre.



DURHAM BULL "DUKE OF GLOSTER."

This superior bull is the property of Lewis G. Morris and Mr. Becar, of New York, and was purchased by them at the great sale of Earl Ducie in 1853. His cost was 650 guineas (\$3,250), with the restriction that he was to be retained in England for one year. He was considered the best bull at the sale, and the agent was authorized to go as high as \$6000 for him. He is expected to arrive in this country in August or September. The following is his pedigree:

Red, calved September 14, 1850, bred by Earl Ducie, Tortworth Court, now the property of J. S. Tanqueray,

L. G. Morris and Noel J. Becar; got by Grand Duke (10284), dam (Duchess 59th) by Second Duke of Oxford (9046), g. d. (Duchess 56th) by Second Duke of Northumberland (3646), gr. g. dam (Duchess 51st) by Cleveland Lad (3407),—(Duchess 41st) by Belvedere (1706),—(Duchess 32d) by Second Hubback (1423),—(Duchess 19th) by Second Hubback (1423),—(Duchess 12th) by the Earl (646),—(Duchess 4th) by Ketton 2d (710),—(Duchess 1st) by Comet (155),—by Favorite (252),—by Daisy Bull (186),—by Favorite (252),—by Hubback (319),—by J. Brown's Red Bull (97).

Book Notices.

COUNTRY GENTLEMAN.—This well conducted weekly journal commenced with July its fourth volume. It is published by Luther Tucker, Albany, N. Y. \$2 per year in advance. Joseph Warren, assistant editor. It is a family, no less than a farmer's paper, and in variety, no less than quality, of both original and selected matter takes a high rank, and well deserves the extensive patronage it has received.

WOOL GROWER & STOCK REGISTER.—Published at Rochester, New York, monthly; price 50 cents per year. D. D. T. Moore, proprietor, T. C. Peters, principal editor. The July number commenced the sixth volume, and it has also been enlarged to thirty-two pages. Although especially devoted to the department of stock, it also contains much valuable matter on kindred subjects, and should be in the hands of every stock breeder in the country. The only fault in the Wool Grower is the price. It is well worth \$1.

WATER CURE JOURNAL.—Published by Fowler & Wells, 308 Broadway, New York; \$1 per year. A new volume of the above commenced with July. We commend the work to all who consider prevention better than cure, and wish to obtain good health by the natural remedies of pure air, pure water, regulated diet and exercise. Many suggestions on all these points can be from time to time culled from it highly valuable to a family. Hydropathy is evidently on the increase, and as a necessary consequence the disuse of tea, coffee, tobacco and all other stimulants. The Journal is handsomely printed and illustrated.

AMERICAN PHRENOLOGICAL JOURNAL.—Published as above and same price. The only periodical in the country we believe devoted to phrenology. It is also a literary paper, containing numerous illustrations and biographies, with portraits of distinguished characters. The July number contains four engravings of Niagara, and also portraits of G. N. Frankenstein and Bayard Taylor, with their phrenological developments. The portrait of the latter, who is a native of Chester county, will be recognised by his friends, and his biography truthful, and evidently written by *one who knows*.

WARDER'S WESTERN HORTICULTURAL REVIEW.—We have not received a copy of the above for the last four months. What is the matter? Is the fault with the mail, or does the editor intend cutting acquaintance with the Pennsylvania Farm Journal? A subscriber near us, who sent on the money, says he is also in the same predicament.

PEOPLE'S JOURNAL.—This is the title of a beautiful work published monthly by Alfred E. Beach, of New York, devoted to agriculture, mechanics, science and useful knowledge. Each number contains thirty-two pages super royal octavo, embellished with numerous engravings upon almost every conceivable subject. The paper is of excellent quality, and each volume will make a handsome addition to the library.

Ailanthus Trees.

In accordance with what seems to be the spirit of the age, the ailanthus tree has been made the occasion of at least two conventions in different cities, and some very formidable strings of resolutions. We should be glad to

see it killed off, and its place supplied with other and more beautiful shade trees not liable to the same objection, of which there are not a few. We believe in some places persons have hesitated to cut down the ailanthus, for fear of a multitude of suckers springing up and taking possession of the ground. This has often happened and made much trouble. We have lately seen a case where a large one was cut down, and the roots most effectually destroyed in a short time, by simply boring a two inch augur hole in the centre of the stump, and also in the side, tending downwards, and filling it with salt. There never was the slightest appearance of a sucker.

A Washington County Farmer.

A letter from a friend of one of the publishers residing in Washington county, Pa., contains the following information, which we transcribe for the Journal:—I am still attending to the farm, to which I removed a short time before you left; like the business, and have succeeded well. Farming is indeed at present a profitable business—grain and stock of all kinds commanding high prices. Wool, however, is an exception. But little has been sold as yet (June 12) this season. Prices in this neighborhood range from 30 to 40 cents pound, wheat is \$1 60, corn 65 to 70 cents, and oats 40 to 45 cents per bushel. Good horses sell from \$100 to \$150 per head; cattle at \$3 50 to \$4 00 per hundred, gross weight; sheep (good wethers) \$3 00 to \$3 25 do do

"My attention has been confined principally to horses and sheep. I have found the latter, on the whole, the most profitable branch of farming. I am touching the French stock lightly, and thus far like them well.

"I have a Durham calf—not full blood—which when four months old weighed 550 pounds, at seven months 800, at twelve months 1,080. He is now thirteen months old, and I think will weigh 1,200 pounds. His color is deep red. He took the first premium at our fair last fall.

"The wheat crop in this county will be a great failure—will not be half a crop at the best."

Preparation of Ground for Reapers and Mowers.

MR. DARLINGTON:—As you and most of your readers are aware, the scarcity and high price of labor has compelled the introduction of reapers and mowers into the grass and grain fields to a considerable extent in Pennsylvania and some other States; and the indications are that the demand for them has only commenced. The experience of the present season has been highly favorable, and a year or two more will probably find them among the implements of nearly every close calculating farmer in the State. But while the experience of the present season has been highly favorable, as above observed, it has also served to show the necessity of more carefully preparing the ground with a view to their future use. Many farmers purchased and used reapers and mowers this year, who scouted their practicability last; and not a few of these found, to their cost, that a little more care in the preparation of their ground before seeding would have been much to their interest.

The machines are not yet perfect, but the patentees and makers will take care to remedy all defects in their construction. It would be a miracle, however, to make

a mowing machine capable of cutting through rocks, mounds, &c. I hazard the assertion, without the fear of contradiction, that the smoother the ground is prepared, and the cleaner it is made from obstruction, the better *any* machine will work. This being the case,—and the strong probability that many, who yet doubt the successful adoption of these implements in lieu of the scythe and sickle, will, ere long, be compelled to use them,—would it not be well to have an eye to this while the ground is under tillage?

J. W.

Delaware county, 7th month 16th, 1854.

For the Farm Journal.

Blind Ditching.

MR. EDITOR:—The subject of reclaiming land in wet locations becomes of more importance as our population increases. A wet piece of ground is mostly of the best quality after a judicious system of draining has been applied, where stagnant water and springs can be led from the ground. Much depends on the knowledge and experience persons have in the matter, to do it in the most economical way; an unskillful method may cost much money and hard labor, and accomplish very little comparatively in the end: for example, in draining a piece of ground which has a number of springs, either temporary or continual, which is frequently the case at the foot of rising ground, an inexperienced person would be likely to construct a ditch over a large field for each spring, where all might be accomplished by running a single ditch along the foot of the rise as near as possible, and as circumstances would allow, to the springs, and short branches to those which cannot be reached otherwise, and the main ditch will carry away all the water into some stream or other place where it does not hinder. It is frequently that water oozes out in or near the flat valleys, from the fact that the ground is more compact than on the sides of rising ground, thus the water is brought on the top and rivulets or wet spots are produced. By studying the nature of the subject we will be able to arrive at a proper conclusion. If a ditch be sunk a proper depth (much depending on the thickness of strata) and stones laid in the bottom, covered by flat ones so as to leave a passage for the water, and the balance filled up with stones within ten inches of the top, will make what is termed a blind or covered ditch. Experience in this part of farm economy is requisite as this article will show, and a person unacquainted with the business would do well to spend a few dollars for a survey and directions by a person understanding it practically and theoretically.

Orwigsburg, May 20, 1854.

J. S. KELLER.

Domestic Recipes.

GREEN CORN CAKE.—Mix a pint of grated green corn with three table spoonfuls of milk, a tea cup of flour, half a tea cup of melted butter, one egg, a tea spoonful of salt, and half a tea spoonful of pepper. Drop this mixture into hot butter by the spoonful, let the cakes fry eight or ten minutes. These cakes are nice served up with meat for dinner.

PEACH JAM.—Gather the peaches when quite ripe, peel and stone them, put them into a preserving pan, and bake them over the fire till hot; rub them through

a sieve, and add to a pound of pulp the same weight of pounded loaf sugar, and half an ounce of bitter almonds, blanched and pounded; let it boil ten or twelve minutes; stir and skim it well.

TOMATO CATSUP.—Take two quarts skinned tomatoes, two table spoonfuls of salt, the same of black pepper, and one of allspice; four pods of red pepper, two table spoonfuls of ground mustard; mix and rub these thoroughly together, and stew them slowly, in a pint of vinegar, for three hours; then strain the liquor through a sieve, and simmer it down to one quart of catsup. Put this in bottles and cork it tight.

TO KEEP OUT RED ANTS.—Place in the closet, or wherever they appear, a small quantity of green sage.

KEEPING TOMATOES.—A friend of ours tells us he has had no difficulty for several years in keeping tomatoes, by placing them when ripe simply in a barrel filled with strong brine, and keeping them covered with the liquid by a board on top and weight. The barrel is kept in a dry, cool cellar, free from frost, and the tomatoes are ready for use through the winter and till spring.

Will some of our readers try it, and report the result to the Farm Journal. Tomatoes will be very abundant this season from present appearances, and if the season of their use can thus be prolonged by so simple a process, it will be a great desideratum.

SALAD WITHOUT VINEGAR.—Editor Farm Journal—Dear Sir:—I lately had the pleasure of eating a dish of salad which was so deliciously dressed, that I obtained the recipe to send it for the benefit of your readers:

Take the yolks of two hard boiled eggs, and wash them well on a plate, adding the juice of half a lemon; cut fine a large crisp head of salad and mix well with the egg; give a top-dressing to the whole of two or three large table spoonfuls of fine white sugar. The quantity of lemon juice and sugar, of course, depend much on the size of the heads and the taste of the eater. Salad so dressed will be found the "me plus ultra."

Yours, P. K.

The above is rather late for this season, having been intended for our last number, but was not received until after our form had gone to the foundry to be stereotyped. Our lady friends may bear it in mind until next spring.

ABOUT CLEANING WALL PAPER.—"In your last paper it is stated, that the very best method of cleaning wall paper is to sweep off the dust and then rub the surface with stale bread. This may be one of the *best* ways, but it is not *first best*, as they say at the county fairs. I can clean wall paper just as nicely, with less than half the time and labor, by taking a quantity of wheat bran, say two quarts at a time, and enclosing it in a piece of thin, open flannel cloth—so that the bran will work through—and rubbing the paper with this, shifting and shaking up the bundle once in a while to keep the surface fresh. Another advantage of this rubber is, that it can be fastened on to a broom or other handle, and then you can reach the top of the wall without getting upon a chair or bench. If you have not flannel suitable, a piece of strainer cloth or such like will answer. With this apparatus, wall paper that is badly smoked can be restored in a short time, so as to look almost as good as new. Grease spots can be considerably improved by first rubbing them well with chalk, and then laying over them

several thicknesses of brown paper, and pressing on a hot flat iron."—*Ohio Cultivator*.

INDELIBLE INK.—Durable or indelible ink may be made by dissolving a couple of drachms of lunar caustic and half an ounce of gum arabic in a gill of rain water. Indelible red ink is made by mixing and reducing to a fine powder half an ounce of vermilion, a drachm of the salt of steel, and linseed oil enough to render it of the consistency of black durable ink.

TO POLISH MAHOGANY FURNITURE.—Rub it with cold, drawn linseed oil, and polish by rubbing with a clean, dry cloth, after wiping the oil off from the furniture. Do this once a week, and your mahogany tables will be so finely polished that hot water would not injure them. The reason is this, linseed oil hardens when exposed to the air; and when it has filled all the pores of the wood the surface becomes hard and smooth like glass.

LARGE PUMPKINS.—Having had good success the past season in raising fine large pumpkins, I will give you my plan and experiment. The ground planted was a warm, clayey loam, descending to the south. I planted the 20th of May, with corn and one and two pumpkin seeds in a hill; used about one table spoonful of plaster, or gypsum to the hill. The field was a clover sod, plowed once and harrowed three times. When the vines commenced to run, say one foot in length, I gave them a careful hoeing. After the fruit was well set, or some was six to eight inches in diameter, I covered the stem, and a small portion of the vine joining the stem, with moist, loose soil; the result was, that roots directly from the stem of the pumpkin were formed, and the fruit derived sustenance, and plenty of it, judging from the size and weight, which was from eighty to ninety pounds.—*Plowboy*.

TO MAKE WASHING FLUID.—A correspondent who writes from Casco, gives us the following receipt for making washing fluid:—

Take, 1 gallon of soft soap, 2 quarts of soft water, 1 gill, of spirits of turpentine, and one quarter of a pound of sal soda; boil them together for five minutes. When wanted for use, put your clothes to soak over night, and in the morning add one pint of the fluid, and then boil the cloths for fifteen minutes, after which rinse twice, in cold water.—*Maine Farmer*.

Peach Worm.

In many of the papers at this season may be found remedies for the peach worm. They may be called standard remedies, because they appear periodically year after year. There is no harm in trying them, but the only remedy we believe in and have found effectual, as well as simple, is to examine each tree, spring and fall, with a knife tapering to a sharp point, hunt up the intruder and destroy him. If he is about at all, there is no difficulty in finding him immediately under the surface of the ground, his presence being indicated by the gum. Just below the surface the bark is tender, which makes it the point of attack. In the hard bark above the ground he cannot make an entrance, and to guard against him below we have pursued the plan each fall of exposing the trunk, by drawing away the earth around it down to where the large roots begin to branch out, and leaving it exposed all winter. The bark thus becomes hard and impenetrable. In the spring it should

be filled up again a little above the level, a peck or more of leached ashes being applied also around each tree, according to size. This application greatly promotes the thrift and growth of the peach. By attending to these recommendations, instead of being a short lived tree, having but two or three crops, and then dying off, as is the case with many orchards, we believe it can be made to live and be productive and profitable from ten to fifteen years at least, and perhaps longer. We know of peach trees in this vicinity, apparently perfectly healthy and bearing well, twenty-five years old. To those who consider this plan too troublesome, we only say do without peaches and make no complaints. Fruit of the best quality cannot be grown without care and trouble, and if it could, would not be valued so much as it is. The yellows in the peach is far more difficult to manage, and indeed no remedy has yet been found. Whenever it makes its appearance, the tree should be exterminated, root and branch.

Paulownia Imperialis.

We have lately met in the streets of Philadelphia, along the side pavements, a few specimens of Paulownia; the top and side branches of which had been well shortened in, presenting one of the most beautiful and effective shade trees we have met with for a long time.

It is highly probable that the Paulownia will soon be much sought for as an ornamental tree; the fear entertained when it was first introduced from Japan, that, like the aïlanthus, catalpa, &c., whose spongy wood it resembles, it would be liable to sucker, being proved to be groundless, at least we have not observed this tendency in quite a large number of trees in and around West Chester. Another objection is the long straggling branches, with the consequent liability to be blown off by high winds, and its rather open head. This can be entirely obviated by the shortening in process, as above, when a compact, dense mass of beautiful broad foliage is obtained, sufficient almost to turn a shower of rain like an umbrella.

As an offset to these drawbacks, the Paulownia offers as a shade tree, either for city streets or for country, several very decided advantages: its entire freedom thus far from insects, its unequalled strait and rapid growth, broad leaves, beautiful blossoms, and ease of transplanting.

Where shade is wanted *soon*, nothing equals it. It has made a growth with us of ten feet from the ground in a single season, where it had been cut off close. The second season a head will begin to form. The blossoms are purple, show themselves very early in the spring; the little brown, button-like envelopes containing them being curiously developed the fall previous. For street planting especially, we consider the Paulownia well deserving of extensive trial.

Ammonia in Clay Soils.

Professor Way, in a recent lecture before the Royal Agricultural Society, made the startling assertion that ordinary clay soils contain ammonia per acre, locked up in their substance, corresponding to the quantity present in *three tons of guano*.

He also stated facts in relation to the use of lime,

which would lead to the practical inference that it should be applied at short intervals in small doses, instead of large doses at longer intervals, which is the general plan.

The editor of the English Agricultural Gazette says: "When the lecture shall be published, the facts of which it speaks, and the inferences to which they lead, will we believe be seen to stand high among the very important additions to agricultural truth, for which we are already indebted to the chemist of the English Agricultural Society."

We hope to condense some valuable facts from this lecture for the Farm Journal.

Gain of Weight in Cattle Feeding.

A correspondent of one of our English exchanges gives the following as the result of his observations on the above subject:

In the various publications to which I have had recourse, with the view of informing myself as to the treatment of cattle, I have found no attempt to estimate and distinguish the gain of useful material made by them in the process of fattening. On seeking to explain my views on this subject, I feel less hesitation, as I supply data and figures from which my conclusions are derived, the soundness of which it is not difficult to estimate and ascertain.

The cattle I prefer for fattening are well-grown heifers, or cows which have had their first calf at three to five years old. The breeders of this district are to a considerable degree short-horns, the bulls used being more or less of this description; they may be termed of 'fair' quality. Their live weight when bought in a lean store condition, ranges from 7 cwt. to 6 cwt.; their capability of carrying weight, when prime fat, may be taken at an addition of 3 cwt. Although it is not usual to kill beasts in a store state, and little positive information can be gained as of the carcase weight of lean stock, yet, from observation and inquiry, I am disposed to think that this will be less than one-half of the live weight probably not more than 43 to 47 per cent. In Morton's Cyclopaedia treatise "On meat," the comparison of carcass to live weight is stated as 50 to 55 per cent when half fat, and as 61 to 63 when prime fat, for cattle of the like quality. I quote this as tending to confirm what I have stated as to the comparative probortion in lean stock.

I will consider, for example, a lean animal weighing 8 cwt., and capable of weighing when prime fat 11 cwt., live weight: when fairly started, and with proper feeding, I should look for a gain of 14 lbs. per week, which in my practice is a moderate average; at this rate it would require 24 weeks to bring it to a state of prime fattness. On comparing the weights when lean and fat—8 cwt. or 64 stones lean, at 45 per cent, will leave 28½ carcase weight; 11 cwt. or 88 stones fat, at 60 per cent, will leave 52½ carcase weight. The difference is 24 stones, or 14 lbs. per week, being precisely the gain per week in live weight.

During the progress of feeding there is a gradual increase of interior fat of two descriptions—fixed fat in the loins, commonly called suet, which will vary from 8 lbs. when lean to more than 30 lbs. when fat, this is weighed with the carcase; and loose fat, or tallow, which counts as offal. If we take two beasts of equal live weight, and suppose, on killing, one contains 9 stones of loose fat or tallow, the other only 5 stones; now, though this loose fat counts as offal, it is known that the carcase weight of the animal with the 9 stones of loose fat will be heavier than the one with only 5 stones. A consideration of this matter led me to infer that, with the increase of interior fat, there occurred a displacement of material in the

process of evacuation. On inquiry of butchers of experience with whom I deal, they tell me that it is a characteristic of a beast, which "proves" well, to have a little stomach. On looking over the items of offal they appear capable of little increase or variation in one and the same animal, with the exception of tallow and of the stomach, in the weight of each of which there is a difference of 100 lbs. or upwards. I observe that the writer of the paper of which I have quoted attributes this comparative increase in the carcase weight of fattened beasts to its greater solidity, to hollows being filled up, and protuberances being formed; it seems, however, clear that this would equally effect the live with the carcase weight, and therefore does not satisfactorily explain the matter.

If my premises be correct, it will appear that besides the gain of carcase weight (which is shown by comparison to be 14 lbs. per week on an animal which gains this in live weight), there is an additional gain of interior loose fat which counts as offal. From observation and inquiry I am led to think, then, that this will not be less on the average than 3 lbs. per week, or, in the 24 weeks, 72 lbs. of loose fat, making together 17 lbs. per week gain of useful and vendable material—a result at variance with the impression I had before I entertained upon this inquiry. I may at some future time seek to draw to the probable proportion and description of this material gained in the process of fattening. Y.

We clip the following judicious remarks from the Ohio Journal of Education, which, although not "agricultural," we trust our patrons, most of whom are parents, will pardon us for inserting:

Duties of Parents to Schools.

1. Parents should send their children to school constantly and seasonably.
2. They should see that they are decently clothed, and cleanly in their persons.
3. They should encourage them to respect and obey the rules and requirements of the school.
4. They should encourage them to be orderly in their deportment, and studiously to regard right.
5. They should encourage them to be studious, by manifesting an interest in their lessons.
6. They should have a regard for the character of the books their children read, and see that they read understandingly.
7. They should cultivate in their children habits of true politeness and courtesy.
8. Besides visiting the school and co-operating and sympathizing with the teacher, they can do much for its improvement and success, by manifesting at all proper times and in all proper places, an interest in its welfare, and a deep solicitude for its reputation; by speaking well of the teacher and of all his judicious plans; by palliating or excusing his faults or failings, (of which every teacher must be expected to have some;) and by inducing their neighbors to visit the school and take an interest in its exercises; thus showing to their children, in the most convincing manner, that they feel that their present employment is an important one, and that the duties of school are not to be regarded as of little consequence.

Destruction of Bushes.

The Boston Cultivator makes the following seasonable and sensible remarks, which are alike applicable to Pennsylvania and New England. We would simply add that "now is the appointed time:"

In many places there are grounds which cannot be well plowed, that afford tolerable pasture, if not too much occupied by bushes. The shrubs which are inclined to grow in these situations, are alders, briars of several kinds, whortleberry, &c.

where these are permitted to grow, they prevent the growth of grass to a great extent, and make that which does grow sour and worthless.

The mode usually adopted for killing bushes, in such circumstances, is to mow them. The efficiency of this has been found to depend much on the time of the year in which the work is done. Cutting in winter seems to have little effect towards destroying them; they start with the return of spring and grow rapidly. The effect is nearly the same if they are cut while the foliage is developing. All trees and shrubs make their annual growth in a few weeks from the time of putting out leaves. During the remainder of the season, the wood hardens, and the buds of next season's foliage are set. The juncture when the leaves have attained their full size, and the growth of the season is checked, is sometimes called "turn of the sap." The vitality of many plants is greatly impaired if they are cut off at this time. But with another species, cutting at another period—the last of August—is most fatal.

The black alder usually grows in moist rich ground, such is very natural to grass. From their rapidity of growth they as soon occupy the ground to the exclusion of other vegetation, and appropriating the best soil to their use, they occasion much loss. Attempts are often made to eradicate them, which do not succeed, and this produces discouragement, which induces the farmer to allow them to grow unmolested. The result of trials at cutting alders at various seasons of the year, have proved that the above mentioned is preferable. We might cite much evidence in support of this; but, perhaps, what we have already said may induce some to undertake the work.

In killing briars and small bushes, *bruising* sometimes answers better than cutting. A tool called a "brush whacker," had been used for this purpose.

Briers and whortleberry bushes may be kept down by sheep, after having been closely cut down with a scythe. It is necessary, however, to stock heavily in order to compel the sheep to eat the bushes as soon as they start. If the bushes are closely kept down for a year two, the grass will spread and form so close a sward, on good land, that the bushes will have little chance to grow. It is important that when the work is begun it will be followed up. Once mowing may be partly effectual, but if the sprouts are not cut at a proper time the next season, the labor is in a great degree lost.—[Boston Cultivator.]

Spare the Birds.

On no pretext whatever should farmers or gardeners permit their birds to be disturbed. Instead of killing them or frightening them away, they should make use of every means in their power to induce them to increase in number, and become tame and familiar. The worst of them earn twenty times what they eat, and then, what exquisite pleasure to have your garden, yard, orchard, or wood, alive and vocal with the music of the merry birds; plant trees for them, build houses, if necessary, for them, and they will teach you lessons of domestic bliss—preach you sermons—and warble you such hymns as you never heard elsewhere. Be kind to your birds. Warn off, and if necessary expel all transgressors upon your premises, who seek the lives of these delightful companions. The law is now ample to protect your premises.—*Ec.*

Do Soils Lose Their Manures By Leaching?

Not often. 'Tis only the coarsest sands or gravels, and such as are almost wholly destitute of clay or vegetable matter, that permit manures to pass downward through them. Nearly all soils absorb the valuable portion of the manures which have dissolved by rains after applications, before it

has descended five inches. To be satisfied of this, one has only to examine the soil at the bottom of the barn-yard, and he will find a few inches only that have become at all charged with extract of the superincumbent manure.

The true source of escape is by evaporation.—If only partially buried, or the soil is principally silicious and coarse, the ammonia, carbonic acid, and other fertile gases, which may have been developed by decomposition, or dissolved by rains, may evaporate from the surface or through the loosely associated particles of the soil, and pass off into the general storehouse of the atmosphere. And it is in this nearly all manures escape from the soil. A perfect correction of this defect, is to bury the manures at a sufficient depth, and keep the soil above, well supplied with vegetable matter both living and dead.

We have seen the principle above asserted most fully proved by the appearance of a muck heap made by compounding fish with loam.—When made with a single layer of Manhaden or Moss Bankers in the middle of a heap four feet high, the oil and the other fertilizing matters dissolved in the decay of fish, has been found to mark distinctly to the eye and smell all the superincumbent mass of earth, while it had not reached four inches below it.—*New-York Agriculturist.*

Fencing out the Curculio.

W. Maine, of Long-Island, constructed many years ago, a tight board fence around his plum-orchard, about nine feet high, with tight board gates. The curculios did not fly high enough to enter, many striking the sides of the fence and falling outside. An acquaintance who visited the garden when in full fruit, informs us that all the trees *within* the enclosure where heavily loaded with plums; at the same time he observed a tree outside that had lost every specimen.

To Keep Birds from Pecking Fruit.

As the season is at hand for the depredations of birds, I beg to report my experience of last year, when I saved my cherries by hanging up several pieces of tin with strong thread in the different trees two pieces being hung near together to clash with the wind, which sound, with the bright reflection of the tin in the sun, certainly frightened them away; and I had my due share of the fruit, which, the preceding year, I was obliged to relinquish to them. So says a New Jersey Farmer.

Manure for Roses.

Thomas Rivers, in his last rose catalogue, says that for a neat surface dressing for Autumnal Roses, to be applied late in the spring, wood ashes and guano have proved most excellent fertilizers, in the proportion of half a peck of guano to a bushel of ashes applying two quarts of the mixture to each tree, in a circle 18 inches in diameter round the stem, and suffering it to remain undisturbed upon the surface. The ashes retain the moisture from the dew and showers, and the effect, in giving a vigorous growth, with an abundant crop of the flowers in the autumn, has been very apparent. In our dryer climate, an occasional copious watering of a thin grass mulching, placed over this compound, would doubtless be of decided benefit, and during dry periods would in fact be indispensable.

The Elm as a Shade Tree.

What is our best shade tree? After some years of observing and comparing, we have no hesitation in saying that *here* it is the Elm. The Rock Maple grows so slow that people cannot be persuaded to plant it. The varieties of the Soft Maple are scarcely to the Locusts for city planting. They are so tender in their bark, and their liabilities are so many, to get wounded, that it is a chance if two out of five can be got to grow up healthy and strong trees. A little bit of rubbing, the bite of a horse, or any similar thing, and a wound is made where insects fasten themselves, and the tree is ruined. The only way it can be got to come to anything is, to protect it effectually, and cultivate it well, so that it shall grow forward at once from the planting. One summer of ill health is death to a Soft Maple. But the Elm, while more beautiful than almost any, has a constitution worthy of a salamander. It cares nothing for insects, or cattle, or horses, but grows right on against wind and tide; and one Elm is equal to four Maples.

[The experience in this region does not at all corroborate the above from the Prairie Farmer, on the superiority of the

elm as a shade tree. We have tried it in various locations for four or five years past, and find that not only the English elm, which is particularly affected, but also the Scotch and American elm, are liable to have their foliage entirely eaten and perforated with insects, so as to make them quite unsightly and undesirable. We would not think of planting an elm tree for ornament.—Ed.]

Osage Orange.

Mr. M. L. SULLIVANT has a number of hands employed sowing osage orange seed, of which he designs putting in 20 bushels, on a piece of bottom land near this city, with a view to removing the plants to Illinois next year. If the seed does moderately well, it will produce *two million plants*, which at 25 plants to the rod, will set *two hundred and fifty miles* of hedge! Enough for a commencement on one farm, we should judge.—*Ohio Cultivator*.

Salt your Chimneys.

In building a chimney, put a quart of salt into the mortar with which the inner courses of brick are to be laid. The effects will be that there will never be any accumulation of soot in that chimney. The philosophy is thus stated; The salt in the portion of mortar which is exposed absorbs moisture from the atmosphere every damp day. The soot becomes damp, falls down to the fire-place. This appears to be an English discovery. It is used with success in Canada.

New York State Agricultural Exhibition.

The annual exhibition of the New York State Agricultural Society is to take place in the city of New York on the 3d, 4th, 5th and 6th of October next. Hamilton Square, comprising eighteen acres of ground and conveniently situated between two railroads, will be enclosed and arranged for the occasion. The premium list exceeds \$8,000.

The exhibition of the Pennsylvania State Society at Philadelphia occurring the last days of September, will enable persons from a distance to attend both exhibitions without inconvenience. We anticipate at both places a turn out of people, and a display of stock, implements, products of the farm, garden, conservatory, &c., yet unequalled in this country.

Improved Stock.

We have received from Lewis G. Morris, Mount Fordham, New York, a printed catalogue of his stock, which he holds at private sale. It consists of Durhams and Devons, South Down sheep, Suffolk, Essex and Berkshire swine, all bred from the best sources, and comprising some of the best stock now in the country. The prices in most cases are attached, and vary from \$100 to \$2500 each for Durhams, \$150 to \$350 for Devons, South Downs according to age and quality from \$25 to \$125, Suffolk and other pigs \$40 per pair at ten weeks old.

Allegheny County Society.

The fifth annual fair of the Allegheny County Agricultural Society for Western Pennsylvania and Ohio, will be held at Pittsburgh on the 3d, 4th, 5th and 6th days of October. We are in receipt of a neatly printed pamphlet containing the arrangements for the same, with list of premiums, embracing not only farm and garden products, but also manufactured articles in great variety

and fine arts. Handsome gifts, of the value of from \$5 to \$30, have also been contributed as premiums for *lady equestrians* and *lady drivers*, who are to have certain hours exclusively appropriated to themselves. A horse, price \$200, is offered to the best and most skillful rider; a fine Brocha shawl, price \$20, to the second best.

Fulton County Society.

The Fulton County Agricultural Society will hold its second annual exhibition in McConnellsburg on Thursday, Friday and Saturday, October 26th, 27th and 28th. A liberal list of premiums is offered.

We should be obliged if the Secretaries, or other officers, of our different county societies would advise us of the times of holding their coming annual exhibitions. We wish to give notice of all of them, but shall not be able to do so unless this information is forwarded to us.

Officers of the Blair County Agricultural Society.

PRESIDENT—Martin Bell.

SECRETARY—John C. Innes.

CORRESPONDING SECRETARY—John P. Jones.

MANAGERS—David Caldwell, Joseph Dysart, Geo. W. Smith, Henry Rugart, Joshua Roller, A. McCallister, and W. W. Jackson.

[The above was forwarded in season for our May number, but failed to reach us.]

Mercer County Society.

The Mercer County Agricultural Exhibition is to be held at Mercer on the 19th and 20th of September. A premium list is offered embracing a wide range of all kinds of stock, farm implements, vegetable productions of the farm, garden and fruit orchard, and mechanical arts, as well as those of the household, and domestic economy. Mercer is one of our best western counties, and there will no doubt be a display well worth attending. The name sounds familiar to farmers of eastern Pennsylvania, as the place where was delivered the celebrated "Mercer address" of our friend J. Gowen, which excited so much attention. The name of the orator for the present year is not mentioned. In the premium list the Pennsylvania Farm Journal is made to form a part of all premiums above two dollars. This example is well worthy of imitation. We are surprised that our Journal does not receive more patronage from county societies.

Somerset County Society.

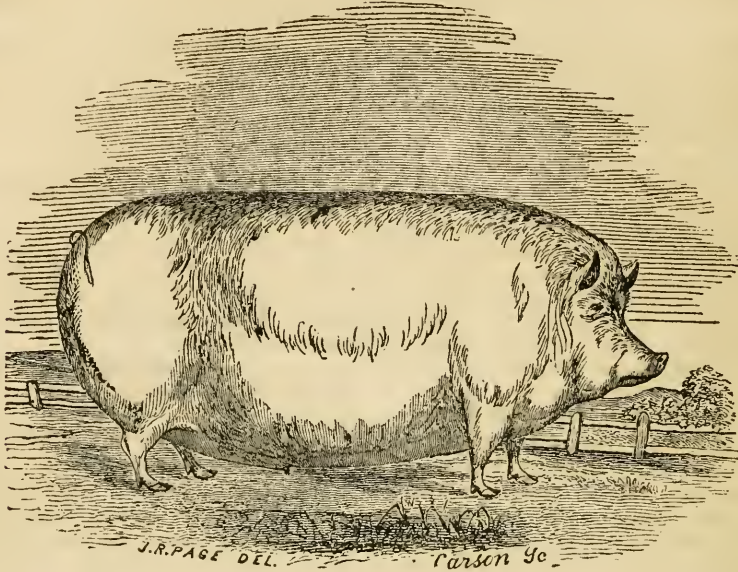
The Somerset County Exhibition is to be held at Somerset on the 5th of October. A permanent enclosure of four acres has been *purchased*. This looks as if Somerset county farmers are determined that their exhibition shall be a fixed fact hereafter, and their public spirit is to be highly commended. The premium list we have not yet seen.

Westmoreland County Society.

The first fair of the Westmoreland County Society will be held at Greensburg on the 11th, 12th and 13th days of October next. We shall hope to hear of its complete success, of which we have no doubt, as the farmers of that region don't undertake any thing without carrying it through. The Intelligencer says:

"The officers and board of managers of the society deserve great credit for the exertions they are making to get up an exhibition that shall do honor to Old Westmoreland. By the way, let every farmer, and all who take an interest in that which raises the character of our county for improvements in agriculture, horticulture and the breeding of the best of stock and all domestic animals, come up and enroll themselves as members of the

Westmoreland County Agricultural Society; and thus give their direct influence, with but little expense of time or money to themselves, to promote these great ends. The officers of the Society are sacrificing their time, and even their money, freely, in perfecting the necessary plans to make the exhibition respectable, and exhibitors comfortable; and will you not give your names to second their efforts?



FAT SUFFOLK PIG.

The above engraving represents a Suffolk pig, bred and killed by John R. Page, Esq., of Sennett, Cayuga county, New York. Mr. Page assures us it was the smallest of a litter, and when killed at six months old weighed two hundred and thirteen pounds, measured thirteen inches through the shoulders, and a little less through the hams. Mr. Page, it is needless for us to add, has some more of the same stock left.

Large Clip of Wool.

Washington county is the great wool growing county of Pennsylvania, but J. S. Coe, an enterprising wool grower of an adjoining county (Fayette), sends out a challenge in the result of his clip the present season which will be hard to excel. His Spanish sheep clipped 10 to 11 pounds of washed wool, and his French 23 to 24 pounds.

Rust in Wheat.

The wheat crop in Chester county has been very seriously reduced the present season by *rust*. By the following, which we clip from one of our foreign exchanges, it would appear as if a finely pulverized and well prepared seed bed previous to sowing might act as a preventive. We never heard the idea suggested before, but as the prevalence of rust is often inexplicable to farmers, it may be well to hear what they say about it on

the other side of the water. We often see wheat fields after seeding left very rough and cloddy, which, without any reference to *rust*, is a great drawback to the regular germination and growth both of wheat and grass seeds. The article is as follows:

"The rust complained of in your leading article of the 17th inst. is, I conclude, one of the Uredines—very probably *Uredo rubigo*. The probable occasion of its appearance arises from the foetid (rancid, impure) and damp air contained in the clods of earth, for want of closer comminution of the soil and consequent free circulation of the elements. The sap eliminated from the minerals in conjunction with foul air causes the plant to become diseased, and to exhale from its stomata or mouths an atmosphere adapted for the vegetation of that variety of the fungus. The best remedy is to expose the atoms of the clods forthwith to the air, and generally stir the soil around the plants most carefully with a hand-hoe, and the diseased plants will be found to revive and throw off such disease in due course, the quicker according to the different stages of growth of the blight and general tillage of the soil; and further, such stirrings needs be continued throughout the season as long as practicable. This advice is deducted from much study. The remedy will be found equally efficacious to any of the order Coniomycetes or dusty fungus, mildew, or mould."

European Agriculture.—No. 8.

Vegetable Nutrition the Cause of the Inorganic Food of Plants through the Vegetable Structure—The Nature of this Food, &c.—Its small Proportion of Lime.

In the last number we glanced at the progress of vegetable development from the earliest periods of its existence up to that in which it is prepared for such nutriment as the farmer may be able to supply to it, together with that already existing in the soil. Let us now ask ourselves how are the filthy materials that are used to improve the land transformed into combinations that gratify the palate, and nourish our bodies?

Let us accompany some of these filthy materials in their course through a stalk of corn, or perhaps a stalk of oats would better serve for illustration, as we have more extended analysis of this plant. Once located at the roots of a stalk of oats, with compounds of potash, soda, sulphuric acid and phosphoric acid, &c., around us, the first requisite is water to dissolve the substance that we propose accompanying. Rain comes, and the roots are surrounded with a portion of soluble matter. This soluble matter commences entering all the newly formed parts of the root, but most rapidly through the extreme ends of the small hair-like fibres that extend from the same; on these ends is a very soft spongy matter, well adapted to this purpose. The question, why under these circumstances water will enter the roots, and mount to the highest tip of the tallest tree against the force of gravity, has, in times past, very much engaged the attention of vegetable physiologists; but it is now generally admitted to be due to a principle illustrated by the following experiment: Take any tube, as an ordinary lamp funnel, and over one end of it tie a piece of bladder, and then fill it with a solution of sugar, and place the lower end in a vessel of water. The water will pass through the membrane into the funnel, at the same time a smaller portion of the solution will pass out. We thus get an increase of substance in the funnel.

The most careful microscopic examinations have shown that all parts of plants consist of cells. The stately oak is not a solid mass of wood, but from the delicate fibres at the root to the leaves it is built of cells, as much so as is an ordinary wasp's nest [to use a familiar object for a comparison]. These cells, it is true, in the older parts of the plant become filled up with solid matter sometimes, but this matter is of a different character from the cell itself. These cells, unlike those of the wasp's nest, are closed on all sides, so that all substances which enter them must pass through their lining membrane, in the same manner the water passed through the bladder into the funnel alluded to above.

Our already dissolved substance, coming in contact with the external side of the membrane of these cells at the extreme and delicate ends of the roots, passes through into the cell, at the same time that a portion of the syrupy contents passes out as does the sugar out of the funnel.

Once within our cell, which may be so small that two or three millions of them can be encompassed in a cubic inch, the next cell above presents the same relation to this that this did to the external solution; hence it is entered, and thus we go from cell to cell, passing millions of them in our course, till we arrive at the leaf. In plants of more than one year's growth, the course of this circulation is principally through the outer and newer layers of the wood (the white wood).

The fluid once in the leaves is concentrated by evaporation. Its excess of water passes off, and the dissolved inorganic constituents are next directed to the different parts of the plant according to their quality. Such of them as are required by the seed are separated from the others and enter

it. Those not necessary to its growth are left in the other organs that lie adjacent to the seed, or are allowed to remain in the leaf, by which in perennial plants they get back to the earth again, when the leaf falls off; or they may go to fill up the old cells of the plant, which are no longer needed as a passage for fluids.

The farmer can readily see that if the above process takes place, we cannot tell, by the analysis of a single plant, or any number of plants grown in similar circumstances, what is really essential to its growth. How much of the material that the chemist finds in the ash is the residue thus separated from that really required by the plant? This is a question of the deepest interest, both in a theoretical and practical view, and it is one to which the agricultural chemist of the present day is particularly directed. And it may be that when it is once satisfactorily answered, much of the variation that is found to exist in the amount of the inorganic constituents of plants will be accounted for. For instance, a grain of wheat cannot come to perfection without phosphoric acid; this acid must come to it in combination with some other substance. If this other substance is a compound [as potash] that is also necessary to the growth of the wheat; both are absorbed, and no waste material is separated to fill up the old cells of the chaff or stem. But if the phosphoric acid be in combination with substance that is not essential to the development of the wheat [as soda], the latter will be separated as above described, or it may probably, at least to some extent, remain as an impurity in the wheat.

Analysis has shown, with a good degree of clearness, that in the earlier stages of the growth of plants, all parts of the plant contain nearly the same relative quantity of the different inorganic materials, but as it becomes more developed, and its different organs approach perfection, certain organs appropriate particular elements to themselves. Thus ripe wheat appropriates nearly one-half the amount of its ash of phosphoric acid, while the straw only contains about one-twentieth of its amount of ash of this acid.

Hence from the above it may be seen that when we follow our soluble inorganic matter in the case of the oats supposed, we will find its different elements separating at a certain period; some we will be obliged to follow into the grain, and others into the hull and chaff that encloses and the stalk that bears it, as may be seen by the following analysis of ripe oats:

	Potash soda.	Lime	Magne- sia.	Chlorine	Sulph. acid.	Phos. acid.	Silica.
Grain,	31.6	5.3	8.7	0.4	0.0	49.2	1.9
Hull,	10.3	2.0	0.4	0.3	9.6	1.0	72.8
Chaff,	8.0	6.8	1.8	5.1	5.3	3.5	68.1
Leaf,	14.9	9.5	2.6	2.3	14.8	3.7	51.7

The potash and soda are both thrown together above; the amount of soda in oats is quite insignificant, and it is not present in the grain at all.

By looking at the above numbers we see that in the grain (after it is hulled) a large quantity of potash and phosphoric acid are present, but very little silica; on the contrary, in the hull that encloses the grain there is not so much potash and very little phosphoric acid, but a great quantity of silica. Adding the amount of potash and soda, of phosphoric acid and of silica, in the grain and hull together, we have

Potash and soda,	41.9
Phosphoric acid,	50.2
Silica,	74.7

166.8

If the 166.8 parts of potash, phosphoric acid and silica above were taken in at the root of the oats, they would all pass up together, as we have described, when at the period

of ripening, the grain would take the phosphoric acid and the principal part of the potash and soda; but having no use for the silica [sand] this would be thrown upon the most convenient organ, which from its proximity would be the hull. It may be seen that the grain also robs the chaff and leaf of phosphoric acid, and heaps upon them its silica. The same is true of some of the other elements present in the analysis as may be seen by inspecting the numbers.

From the foregoing it may be seen that it is no easy matter to decide precisely what inorganic elements are essential to vegetable nutrition. And even did we know what were essential, economy might suggest the use of many combinations, the principle part of the elements of which are not essential, in order to supply one element that is. Thus we can use soluble phosphate of lime to get phosphoric acid and chloride, potassium to get potash, though lime and chlorine, which constitute a large part of these substances, are required only in very small quantity by the plant. So that we can have taken into the plant two substances—phosphate of lime, and chloride of potassium. The plant can take the phosphoric acid of the one and the potassium of the other, and form (with the addition of oxygen) phosphate of potash. And the remaining chlorine of one and the lime of the other can be separated to be thrown into the old cells, or carried to the leaves to fall off with them, or according to circumstances.

We have spoken of silica (sand) as though it was of no importance in the vegetable economy. This is only true with regard to the development of the grain in the cases we have considered. In the grasses and grass-like plants (wheat, oats, timothy grass, &c.), the separated silica serves the very important purpose of stiffening the straw; yet it is subject to very great variation in quantity, rendering it difficult to decide what quantity is best adapted to the furthest development of the plant. But laying this question aside for the present to return to our original one of lime and its compounds, we may see by the following analysis how very insignificant is its quantity in plants compared with other substances. The second column shows the amount of ash in 100 parts of the substances given in the first column; the succeeding eight columns give the amount of potash, soda, &c., in 100 parts of the ash. Thus if we have 100 pounds of wheat we will get 1.978, almost two pounds, of ash, and in 100 pounds of ash we will find 30.1 pounds of potash, 3 pounds of lime, 14.3 magnesia, &c.

	Ash in 100 parts	Potash.	Soda.	Lime.	Magnes.	Chlorine.	Sul. acid	Phospho. acid.	Sil. acid.
Wheat,	1.978	30.1	00.00	3.0	14.3	00.0	1.0	48.3	1.3
Straw,	4.547	15.5	3.2	4.5	1.0	0.00	1.2	4.1	70.5
Oats,	3.80	13.5	0.00	3.9	8.1	0.5	1.0	15.6	56.0
Straw,	7.54	26.0	4.7	8.8	3.0	5.0	4.3	2.2	42.9
Rye,	2.00	34.5	0.00	3.1	11.41	0.00	6.5	46.03	0.17
Straw,	5.00	19.0	00.00	5.0	1.6	0.00	2.3	2.6	66.5
Corn,	(30.8)			1.3	17.0	0.0	0.0	50.1	0.8
Stalk,	3.605	11.46	34.31	4.24	1.46	3.01	0.47	9.22	14.98
Buckwh't	2.13	28.9	00.0	6.7	10.4	0.0	2.2	50.2	0.7
Straw,	4.50	40.8	2.4	19.1	3.0	6.2	3.8	10.7	5.1
Red clov'r	7.76	35.5	0.7	32.8	8.4	3.5	3.3	8.4	7.0
White do	7.60	18.0	6.1	31.3	9.0	4.4	8.3	12.3	5.5
Pot'op't	17.70								
Beet,	0.986	40.5	16.4	6.2	4.3	11.8	3.5	6.4	7.5
Leaves,		34.1	11.3	10.5	8.3	13.4	5.1	7.3	8.0
Peas,	2.884	43.5	0.4	5.6	8.3	1.5	1.8	39.5	0.5
Vines,	4.813	30.0	2.5	35.4	8.6	5.4	5.2	8.8	4.4
Fieldbean	4.00	47.4	0.0	5.4	9.0	0.7	1.7	35.8	0.0
Kidney do	3.50								
White do	3.29								
Vines,	3.47	28.6	00.0	36.3	7.1	0.3	2.1	12.1	11.3

The above analyses are selected principally from a great number of such, given in a work on agriculture just published by Dr. Emil Wolff, formerly professor of agriculture in the Leipzig Economical Society, which has an extensive agricultural department near this town, to which we shall refer hereafter. They have been made in modern chemical investigations, and are therefore not liable to be in error, in consequence of the imperfect methods of earlier analyses.

The amount of each of the above elements, contained in 100 bushels of each of the grains noticed, can easily be found thus:

1st. To find the ash in 100 bushels: Multiply the weight of one bushel of the grain by the number standing opposite to in the first perpendicular column of figures. Example: A bushel of wheat weighs 60 pounds, this multiplied by 1.978 gives nearly 119 pounds to 100 bushels, or 1.19 to one bushel.

2d. To find the amount of a particular constituent of the ash, as potash, soda, lime, magnesia, or any other substance in the last eight columns: Multiply the number which stands in the column opposite the name of the grain considered (and under the name of the element required) by the weight of one bushel of the grain, and the product thus obtained multiplied again by the number opposite the grain in the first column of figures, and the last product divided by 100, will give the amount of the particular substance required in 100 bushels. Example: To find the lime in 100 bushels of wheat: Under lime, and opposite wheat, we find 3, which, multiplied by the amount of one bushel, 60 lbs., gives 180, and this again by the number in the first column, 1.978, gives 35604, and this divided by 100 gives about three and a half pounds of lime to 100 bushels of wheat. (The school boy who has worked in the "single rule" can easily find the amount of potash, soda, and the other elements in the wheat or other substances, given by the above two rules.)

In conclusion it must be remarked that these numbers are not fixed quantities, representing the exact amount of the different elements, that will in all cases be found in the analysis of ash; but they are the average of several analyses, which differ from each other to some extent, yet they can be relied upon as giving a good idea of the kind and amount of the different compounds required to aid in vegetable growth.

E. P.

For the Farm Journal.

The Chief Agents of Vegetable Growth.

BY J. S. HOUGHTON, M. D.

Although I have written somewhat upon the subject of Agricultural Chemistry, I wish it to be understood by my readers that I am not one of the *ultra* chemists; nor do I consider science so perfect and infallible a guide as to be placed before and above practical knowledge; but when science and practice are combined, in due proportions, then and then only can we hope for the most harmonious and successful result in farming.

Those who have not studied chemistry, are no doubt much annoyed by the numerous articles containing chemical phrases which now appear in almost all the Agricultural Journals; and I conceive it to be due to such readers that more care should be taken by those who write, to make themselves understood by persons unskilled in the use of technical terms belonging to any special science.

I propose, in this article, to present the greatest fact in agricultural chemistry in a scientific, and yet popular light: to remind the well informed on the subject of a grand principle, which is too much lost sight of in the excitement about fertilizers and manures, and to instruct those who are less learned in the great fundamental principles of vegetable growth.

All writers on organic chemistry, agree, I believe, that the chief agents which promote the growth of plants, and without which no vegetable matter can possibly be organized, are CARBONIC ACID, WATER, and AMMONIA.

Now if these substances be present in any soil, it is probable that no farmer can fail to secure a fair crop, of any description, (furnishing seed, of course) because there are few soils so utterly bereft of the inorganic or mineral constituent, as not to produce one crop—at least no soil which any rational man would attempt to cultivate.

How to accomplish this object is the question. Let us see if it can be easily or cheaply done.

CARBONIC ACID, it is well known, is a gas, produced by the decay of vegetable matter or loam, and by the breathing of animals and men. These are the two chief sources of it. It of course exists in the atmosphere, to a variable extent, though not forming a part of the air as a body.

The most ready way to secure carbonic acid in the soil, is to add to it decaying muck, peat, leaves, straw, grass, weeds, chips, tan, or any vegetable substance in a well rotted state.

It is not necessary that these substances should have been used as litter in the stable, or in the hog pen. It is only necessary that they should be well rotted, or so far rotted as still to continue the process of decay, for during such decay carbonic acid gas must be given off. It is not positively necessary that lime, or potash, or ashes, should be used to hasten such decay, for if the materials be thrown into a heap and wet with water, and occasionally exposed to the air by turning, decay must take place. Potash, and ashes are the best agents to hasten decay; better than lime, for many reasons.

If the soil be very sandy, or if it have but little loam, and the farmer cannot command an adequate supply of the materials above named to make a compost of, then he must have resort to green crops turned under, to furnish the carbonaceous matter, if he can start a green crop. But you may say that his soil may be so poor that he cannot start even clover. This is probably not true. I am of opinion that clover may be grown on any soil, (the most sandy,) without muck or vegetable matter, by the aid of fifteen bushels of lime, one bushel of plaster Paris, and three hundred pounds of guano to the acre; the guano and plaster to be ploughed under, and the lime to be on the surface of the ground.

If the soil be hard and compact, deep ploughing, and constant stirring, will enable the air and water to penetrate it, carrying with them the gas in question. If very loose and sandy, ploughing should be followed by rolling as far as practicable.

WATER is the next substance to be secured. Too much water is also to be avoided. I will not advise irrigation in any of its forms, for this is difficult and expensive, and few will or can avail themselves of it. Draining should of course be done as far as practicable, the more thoroughly the better.

To obtain the aid of water, cheaply and surely, or moisture, (which is essentially the same thing,) there are two convenient and successful methods, viz: flat cultivation, (as opposed to the practice of ridging or hilling up) and sub-soil ploughing. By flat cultivation you prevent surface water from draining off; And by sub-soil ploughing you permit plants to go down to the reservoir of moisture in the earth below, and also keep the earth so open that when the surface is heated, moisture will rise by the same law which induces vapor to rise any where when it becomes lighter than the surrounding atmosphere.

So you perceive, that if you only plough deep, and sub-soil, and keep the surface of the ground flat, you will have in any soil, a never failing supply of water, one of the chief

agents of vegetable growth, if not the chief and the most essential.

Remember this: subsoiled ground rarely suffers from drought.

AMMONIA, or spirits of hartshorn, is the third general agent needed to create vegetable matter.

How shall we obtain this cheaply and in sufficient abundance? Ah! this is the most valuable and costly of all, and most difficult to be obtained; but still the sources of it are somewhat numerous.

Every reader of any intelligence upon the subject knows, I presume, that ammonia is found in comparatively large quantities in all animal substances, such as flesh, hair, hide, &c., in night soil, in fish, in guano, &c., &c. But these substances are all costly and difficult to be obtained. Where, then, shall we seek this valuable and powerful agent?

The larger portion of the atmosphere (common air) is a gas called nitrogen, which is capable of being converted by union with one of the elements of water into ammonia. That the atmosphere does supply plants with ammonia to any great extent is a debatable point in chemistry, because not capable of perfect demonstration. But practice has shown that such is positively the fact, for the finest crops have been grown in fair loam, without manure, by deep ploughing, trenching and subsoiling, thus securing the presence of adequate supplies of air and water.

My own opinion is (made up from theory, from practical experience on my farm, and from the reports of English experiments,) that good crops may be produced on any fair soil by the use of seed, deep ploughing, sub-soiling, and the most thorough cultivation, without the aid of any manure or fertilizer, as the use of the means above named will secure, infallibly, the presence of carbonic acid, water and ammonia, sufficient to start the crop, and enable it to gather its own appropriate food by means of leaves and its roots, from the air, water and soil.

It would, of course, be advisable to give the crop a little ammonia in the shape of guano, or otherwise, to start it at first, and enable it to make roots and leaves, to begin its work of feeding itself; but, as a matter of scientific fact, seed, water, air, and the most exhausted soil, (no soil being positively exhausted as many people suppose,) are all that we need to start and grow plants, for in seed, water, air and common soil (the most worn out) are all the elements and agencies necessary to grow a fine crop of wheat.

I do not, by saying this, mean to advise any body to go and buy a sand heap, and try to raise plants in perfection without manure, because this theory is true: for, although true, it would be a hard truth to live by. But what I wish to accomplish by this argument is this: I wish to show young farmers, especially those of limited means, how much nature will do for them if they will only plow, cultivate, subsoil, and till the earth. Good manure is a first rate thing, guano is admirable, superphosphate of lime is highly valuable, but deep ploughing, constant and thorough cultivation, and subsoiling, are equal to any of the best modern fertilizers; and without the aid of the above named means, he who buys guano and other rich manures loses half the benefit he might enjoy by more thorough cultivation. Don't cultivate too much land, but cultivate a little thoroughly, and you will get larger crops at less cost. Keep more land in good grass and work the soil deeper and better. Remember that air and water at the roots of plants (constantly passing into the soil and passing off) are as valuable as guano.

Philadelphia, July 1854.

Reaping and Mowing Exhibitions.

Being anxious to give our readers every information for forming a correct judgment as to which is the best machine for mowing and reaping, to regulate their purchases by another season, we copy the following account of the trial at William Staveley's farm, in Bucks county, from the Doylestown Intelligencer. Owing to the place being some distance from any public communication by railroad or river, several machines were not on the ground. Manny's machine was more known and used in that county last season than any other.

We are also indebted to the Monmouth Enquirer for the account of the Mount Holly trial and award of Judges. Manny's machine, which received the first premium, we also hear highly favorable reports of from other sections, both as a reaper and mower. We know of cases near Philadelphia where it both mowed and reaped beautifully, no fault being found with it in any particular. Some allowance must be made this season with nearly all these machines that they are *new* to farmers, many of whom are not mechanics, and time and experience are required to understand their construction and practical working. We have heard of ludicrous mistakes in some places where they would not cut, such as the knives being upside down, &c. Then again manufacturers are to blame in some cases for putting them together of poor materials, and not guarding sufficiently against wear and tear by giving the requisite strength to particular parts. Nothing is more truly perplexing and worrying than for a farmer, who had depended on his machine, and made no provision for hands, than to have it break down, or get out of order, at the commencement or in the middle of his harvest. In some cases a knife, or a tooth, or a bolt, has given way, and the manufacturer not having provided against such accidents duplicate pieces could not be furnished. This has proved in the recent harvest a serious and an inexcusable oversight. Many machines have been thrown out of use entirely by the defect and want of some trifling part. This, of course, has caused some irritability and worryment, undesirable at all times, but especially in hot weather. Some machines in general, and some manufacturers in particular, have been alluded to at such times in terms not the smoothest and most agreeable that could be found in the dictionary.

We have appreciated the difficulties farmers have been in, feeling the *necessity* of some machine for getting in their harvest, by the absolute scarcity of hands, at a loss which one to purchase, and their troubles with it afterwards, but when all shall have been safely gathered and stored in the barns there will be more time for cool and considerate reflection. Manufacturers, as well as farmers, have had their troubles in getting up machines to supply the very unexpected demand, and we have no doubt by another season many improvements in construction will be made, and many little objections overcome, which will be satisfactory all around. It should be remembered that defects in construction or manufacture are not evidences of a *defective principle*. The age of scythes and cradles may now be said to have passed very much away, and to be among the things that were. The history of 1854 when written will record their exit. Reaping and mowing machines are hereafter to be a fix-

ed fact, and specimens of the others may now be secured and hung up in the different county museums, to illustrate to a future age what barbarous and labor killing instruments were wielded in the harvest field. Who knows but that some future Barnum may make them prominent in his cabinet of curiosities, and have to explain their uses to incredulous spectators.

In our last we made the request and now renew it, that those who have used mowing and reaping machines the present season should forward us accounts of how they performed; their objections if any, so that our readers may draw their own conclusions as to which is the best.

—
“The trial of mowers and reapers on the farm of William Staveley, on the 4th inst., drew together from two to three thousand spectators, chiefly farmers of Bucks county, with some from adjoining counties, and from New Jersey. The weather was warm, but the day was fair and favorable. The mowing was done in the forenoon, on a portion of Mr. Staveley's reclaimed meadow. The ground was tolerably favorable for the work—perhaps very favorable for a test of the capability of the machine. It was sufficiently level and smooth to enable them to cut to advantage, and rough enough in places to show that they would work on uneven ground. The following machines were entered:—

Manny's Mower and Reaper, improved, of 1851—entered by Adrian Cornell; Northampton.

Manny's Mower and Reaper, improved, of 1853—entered by the same.

Manny's Mower and Reaper, improved—entered by Good & Gillingham, of Solebury and Buckingham.

Allen's Mower—entered by George Goslin, of Newportville.

Allen's Mower—entered by C. B. Rogers, of Philadelphia.

Hallenback's Mower, with sickle-edged cutters—entered by Alfred Baker, of Newtown.

Hallenback's Mower, with smooth-edged cutters—entered by the same.

Wilson & Moore's Mower—entered by Wilson & Moore, inventors, of Yardleyville.

McCormick's Mower and Reaper—entered by R. T. Elkinton, 53 S. Del. Av., Philadelphia.

Ruggs' Mower and Reaper—entered by W. & C. Crook, New Hope.

Bean's improved Mower—entered by Comly Hampton, of Warminster.

Each machine had a space measured off for a task, and at near 11 o'clock they commenced operations.

Wilson & Moore's machine cut one round, and then broke down, or some part of the machinery gave way, requiring repair before proceeding. After a good deal of delay, it was started again, and soon broke down a second time, and was abandoned. This machine is something new, got up at Yardleyville, for mowing only, and being the first one made, it was constructed without sufficient regard to strength in parts where severe strains would come upon it. It is exceedingly simple in its construction; and from the ease and beautiful manner with which it performed its work, it is evident that it may be made one of the best mowers now out. We saw

no work better done by any other machine.

Hallenback's mower is one of the simplest in construction that we saw; in fact, it would seem impossible to dispense with any of the machinery about it. It runs easy and does its work in a superior manner.

Rugg's Mower and Reaper is essentially different from all the others, except in the cutting apparatus, which is alike in all of them. It is more complicated than some of the other machines, has much more weight of material, occupies more space, and is not so readily managed in turning about. The horses are placed behind the cutting apparatus, by which the side draught is avoided, and the driver sits behind them, guiding the machine by a sort of rudder wheel underneath his seat. It has some advantages and some disadvantages, as compared with others. It appeared to us to require more power to drive it than others; while it cuts a wider swath than most of them. It does its work pretty well.

The other machines we did not have an opportunity of observing particularly; and can only say that they all did their work as well or better than we had expected. The side draught is one of the greatest objections to the mowing machines; and we believe none of them are clear of it except Ruggs'. We do not know, however, that, in getting rid of it in that machine, as much is not lost in some other respects. We would advise farmers who are about to purchase, to examine as many different kinds of mowers as practicable, and see them work, before making a selection. We do not think that any one machine combines the best qualities for mowing and reaping to so great an extent as those adapted to one or the other operation alone.

From an examination of the several performances the Committee concluded to make the following awards:

To Alfred Blaker, Newtown, Ten Dollars.

" W. & C. Crook, New Hope, Ten Dollars.

" R. T. Elkinton, Philadelphia, Ten Dollars.

" George Goslin, Newportville, Ten Dollars.

The reaping was done in the afternoon, in a field of wheat of fair size, and standing thick upon the ground. The machines entered were as follows:

McCormick's Mower and Reeper, of 1851—entered by Oliver Balderston, of Solebury.

McCormick's Mower and Reaper, of 1854—entered by R. T. Elkinton, Philadelphia.

Manny's Mower and Reaper, 1851, and Manny's Mower and Reaper, 1853—entered by Adrian Cornell, of Northampton.

Manny's Mower and Reaper—entered by Good & Gillingham, of Solebury and Buckingham.

Rugg's Mower and Reaper—entered by W. & C. Crook, New Hope.

All these machines cut the grain well enough, though some did it rather better than others—cleaner and with less straggling stalks. In fact, they all cut cleaner than a common cradle, and some of them scarcely left a stalk ungathered in their tracks. The superiority of some over others consisted chiefly in the greater ease of working, or the neater and more regular manner of their delivery of the grain after cutting. Much of this depends upon the skill and experience of those who remove the grain; but it cannot be denied that the construction of the machine has much to do with it also. One or two of

the machines left the grain in pretty neat and regular bunches for binding; while others left it in more irregular masses, with many stalks scattered between. We think, as a reaper alone, the sentiment of the spectators preponderated in favor of McCormick's machine worked by Oliver Balderston. The committee also gave the preference to this mower, and awarded Mr. B. the premium of twenty dollars. They also awarded to Adrian Cornell, twenty dollars, for Manny's Reaper and Mower combined, as the best one exhibited."

To the Burlington County Agricultural Society:—

The Committee appointed to have charge of the exhibition and trial of Mowing and Reaping Machines, present the following report:

We selected grass and grain growing on land in the possession of Samuel A. Dobbins, near Mount Holly, and fixed Saturday, July 1st, as the time for the exhibition and trial. Upon that day, which was as fine as could be desired, a large number of persons were in attendance. Of those present, many were from a distance, showing that persons engaged in agriculture are keenly alive to the gathering of hay and grain by machinery, which has ceased to be a matter of experiment, and in many localities become a work of dire necessity. Your committee, desirous of making the trial of machines the most beneficial to all interested, determined to give each machine, so far as they were able, a fair and equal chance. The grass was timothy and red clover, very large, and in many places much down and tangled. The grain was wheat, and most of it quite tall and heavy—the ground somewhat uneven. The grass staked off in lots of about one-fourth of an acre each, and numbered—each person entering, drew for a lot, and took the one corresponding to the number drawn.

We had the pleasure of finding on the ground, and entered for competition, the following machines, viz:

McCormick's Mower and Reaper of 1854, by Lloyd J. Hunt.

Manny's Mower and Reaper of 1854, by John Poinsett.

Manny's Improved Mower and Reaper, by Elisha and Edwin Roberts.

Manny's Mower and Reaper of 1853, by Tylee W. Burr.

Manny's Mower and Reaper, with Wood's improvement, by Hartshorne White.

Manny's Mower and Reaper of 1854, by Joseph Smith.

Ketchum's Mower of 1854, by J. Brown.

Ketchum's Mower of 1854, by D. Zellej.

Ketchum's Mower of 1853, by Thomas Herbert.

Allen's Mower of 1853, by Stacy B. Lippincott.

Allen's Mower, by John E. Deacon.

Allen's Mower, by Clayton B. Rogers.

Manny's Mower, with Wood's improvement, by Jerome & Ellison.

All of which took part in the mowing contest.

Each machine was allowed two persons to operate with: one to drive the team, and another to render such assistance as was deemed necessary. Every machine was required to cut a double first, and then the operator to cut out his lot at his own discretion. Each machine

cut its lot, and, in the opinion of the Committee, did its work *very well*. So well, indeed, was the work done, that we could not come to a conclusion as to which to give the preference, until we had an opportunity of examining the ground after the hay was made and taken off; and accordingly postponed our decision for that purpose. Having viewed the ground after the hay was taken off, we came to the conclusion stated below.

The morning being occupied in mowing, we assembled in the afternoon to try the reaping qualities of the machines. For reaping the following machines were entered, viz :

McCormick's Mower and Reaper, of 1854, by Lloyd J. Hunt.

Manny's Mower and Reaper, of 1854, by John Poinsett.

Manny's Mower and Reaper, of 1853, by Tylee W. Burr.

Manny's Mower and Reaper, with Wood's improvement, by Hartshorne White.

Manny's Improved Mower and Reaper, by Elisha and Edwin Roberts.

Atkins' Mower and Self-raking Reaper, by John Brown.

This last named machine did not compete for mowing, because, as your committee understood, some part of the machinery to be used in mowing had not yet reached the purchaser, Mr. Brown.

The wheat had been portioned out in lots of about half an acre each, and here, as in the grass, after drawing for their lots the machines started. They soon completed the task of cutting the grain upon their respective lots, and so perfectly did they seem to cut, that scarce a head of wheat was to be seen standing on the ground over which the machines passed. They all performed the cutting of the grain so well, that we were obliged to look beyond that for something else to base a preference for one over the other. The self-raker attached to Atkins' machine performed its work to the utter astonishment of all persons who had never seen or heard of its performance. It enables one person to work the machine, whilst each of the others require a second person to deliver the grain, when cut, from the machine.

The estimation placed by the committee upon this machine may be seen by referring to the awards made by us and announced below. The committee deem it an act of justice to state, that although McCormick's machine did its work well, and deserves, no doubt, the high estimation in which it is held by agriculturists generally, yet, upon this occasion, it seemed to be out of order, and did not do as good work as we think it capable of doing when in good order.

After much deliberation and hesitation as to what in some respects should be our decision, we award as follows :

To John Poinsett, \$15, for the best Mower and Reaper combined, being Manny's Mower and Reaper of 1854.

To Elisha and Edwin Roberts, \$10, for the second best Mower and Reaper combined, being Manny's improved Mower and Reaper.

To Jerome & Ellison, \$15, for the best Mower, being Manny's Mower, with Wood's improvement.

To Stacy B. Lippincott, \$10, for the second best Mower, being Allen's, made in 1853.

To Hartshorne White, \$15, for the best Reaper, being Manny's Mower and Reaper, with Wood's improvement.

To John Brown, \$10, for the second best Reaper, being Atkins' Self-Raking Reaper and Mower.

JOHN DOBBINS, JR.,
WILLIAM CLOTHIER,
SAMUEL A. DOBBINS,
BARCLAY WHITE,
GEORGE E. DEACON,

Committee.

July 4, 1854.

Poultry and Eggs.

A commercial contemporary in a recent article, based upon statistical information says;—The amount of sales of poultry at the Quincy market, Boston, in the year 1848, was six hundred and seventy-four thousand four hundred and twenty-three dollars, while for the city of Boston, they exceeded four millions. The number of eggs sold in Quincy market was 1,129,735, the price paid for them being about \$203,352, or an average of 18 cts. per dozen. The sales in the whole city, it is supposed, fell little short of \$1,000,000. The daily average consumption of eggs at three of the hotels, in that year, was 200.

The city of New York, however, is estimated, expends a million and a half of dollars yearly, in the purchase of eggs. Probably the amount in 1853 was much larger, as the above estimate was made 1848. One single dealer in Philadelphia sends to this city daily, one hundred barrels of this commodity.

Ireland and France are great egg-exporting countries. We have not the most recent statistics, but they are of sufficiently late date to approximate to the present condition of the trade. McCulloch says that the amount paid yearly by England to Ireland for eggs and poultry is from £200,000 to £300,000. The yearly value of eggs alone exported from Ireland to Great Britain exceeds £100,000. The number is probably 70,000,000 and 80,000,000. The British census for 1841, gave an *ad valorem* estimate of the poultry stock in Ireland, in which each fowl was valued at only sixpence sterling. According to this estimate, it showed that in the province of Leinster the stock of poultry amounted to £56,243; in Connaught, to £35,216; in Munster, to £62,830, and in Ulster, to £47,883 making a total of £202,172. But even at this low average named, the amount probably much exceeds this, as the people supposed the inquiry was made to obtain the basis of some new tax, and reported the number as being less than it really was.

The number of boxes of eggs shipped by the city of Dublin steam packet company's vessels to London during the year 1844-5 was 8,874. A box of the usual dimensions contains 13,000 eggs, but occasionally larger ones are used, containing four times that number; so that about 23,565,500 are annually shipped from Dublin to London. To Liverpool in the same year, in the same company's vessels, were shipped 5,135 boxes containing 25,565 eggs; giving a total export from Dublin to two ports of England of 48,539,900, valued at £122,500. Since then however, the trade has enormously increased.

In 1840 Great Britain imported from France and Bel-

gium 96,000,000 of eggs the duty upon which (one penny per dozen) amounted to £34,000. Nine-tenths of the foreign eggs imported into Great Britain are from France. The importation thence in 1842 was 89,548,741; in 1843, 70,415,831; and in 1844, 67,487,920. The yearly importation exceeds 80,000,000. The consumption of eggs in Paris is estimated at upwards of *one hundred millions* yearly. Supposing a fowl to produce one hundred and twenty eggs annually—which is perhaps a fair average—the reader may imagine the immense stock of poultry that must be kept in France. Any one who has travelled in that country is aware that they are reared in vast numbers, they being the most profitable stock on the many small farms owned or tenanted by the French peasantry,

Atkins' Reaper and Raker.

Paschall Morris & Co., who are agents for the above machine in Philadelphia, recently submitted it to a Committee of the Franklin Institute, as entitled to the Scott's Legacy Premium. A trial of it was made near the city in presence of the committee, and its performance was highly satisfactory. We insert below their report and award of premium:

HALL OF THE FRANKLIN INSTITUTE. }
Philadelphia, July 13th, 1854. }

The Committee on Science and the Arts, constituted by the Franklin Institute of the state of Pennsylvania, for the promotion of the Mechanic Arts, to whom was referred for examination, an automaton, or Self Raking, Reaper and Mower,—invented by Mr. Jearum Atkins, of Chicago, Illinois, Report:

That they have carefully examined its structure, and also made trial of it in actual use in grain and grass in a manner adapted to test its capability of doing its work in very unfavorable circumstances; the field on which it was tried being very uneven, and the rye that was cut was much beated down and entangled.

In the general form and arrangement of its cutting apparatus this machine does not differ materially from many others in common use; and therefore requires no description or remark with regard to these parts. Its peculiarity consists in an apparatus termed "Self Raking," which by an ingenious arrangement that cannot well be explained intelligibly without the aid of a working model, causes a rake, armed with a few long fingers to sweep at regular intervals across the receiving platform, from which it gathers the cut grain and deposits it in bundles ready for binding, on the stubble in the rear of the machine out of the track of the horses when they come round on the next swath. The combination used to produce these results appears to be as simple as the complex movements required will permit; being composed essentially of a few jointed levers which receive their motion from a point inserted in the disk of a revolving wheel. These peculiar motions bear a striking resemblance to those of the human arm at the shoulder and elbow joints in the act of being placed a-kimbo; now suppose a bundle of straws to have been gathered by a scraping motion of the hand and held by compression between the fingers and the hip, while the person turns on one heel quarter round; then dropping the bundle by extending his arm to an angle of about 45

degrees with his erect body; and while his arm is thus extended turning on his heel back to his original posture there to recommence these manœuvres, a pretty correct notion of the movements of this curious apparatus may be obtained.

The intention of the contrivance is to save the labor of a man who must be employed on other reaping machines to throw the cut grain off the platform on which it falls as fast as it is cut, and also to diminish the labor of the binders; who must follow with rakes to gather the grain into bundles for binding.

The trials made by the committee show that it can perform completely the duty of the first mentioned operator, and also reduce the labors of the others. In conclusion, as it is believed that this combination is new both in its form and application, it is deemed to be a proper object for the Scotts Legacy premium, an award of which is accordingly recommended by order of the committee.

(Signed) W. HAMILTON,
Actuary.

Danger of Painted Pails.

The editor of the Scientific American publishes the following communication from James Manleo, of New York with the advice for all persons to avoid painting pails. A coat of varnish on the outside, is all the embellishment we ever desire to see on a water pail:

"The oxide of lead with which pails are painted, is a dangerous poison, and I know that it is productive of evil in many cases. Last week, having occasion to take a drink of water from a painted pail, which had been in use for some months, I was convinced by the taste of the water, that it had taken up a portion of the paint, and having analyzed the water, I found it to contain a very minute quantity of it, sufficient however, if a large amount of water were taken, to produce those fearful diseases peculiar to lead poisonings."

Planting Strawberries.

Strawberries may be planted out this month, and will yield a moderate crop of fruit next season. Advantage should be taken of a damp spell of weather, and the ground kept well mulched, and watered if necessary. Young plants should be selected, and the roots well puddled in soft mud, before planting. Where a large plantation is to be made, we would recommend it should be deferred till spring, as the produce coming season, from planting now will not compensate, for the care and trouble required. Unless they become well rooted and established before winter they are liable to be thrown out by frosts and perish.

Ground for strawberries should always be trenched or subsoiled and well manured. No crop will be more benefited, by being able to extend its roots downward than the strawberry.

For the Farm Journal.

Queries for Botanists.

Win. Harper, Esq., a gentleman of this city, has growing in his garden two apricot trees, which are essentially different in their sexual characters. Their history, as near as I can learn, is as follows: Some ten years since, John Harper, Esq., son of Mr. H., was in Virginia, and

was presented with some large and delicious apricots, and brought two of the pits home and gave them to his sister (a young lady gardener); she planted them in a box of earth in the cellar, and in the following spring they sprouted and were planted where they now grow; since then they have never been transplanted, grafted nor pruned. The trees are now about eighteen feet tall with wide spreading heads, and stand so close that some of their branches mix; they bloom profusely at the same time every spring. One has borne a plentiful crop of fruit each for the last six years, the other has never set

a fruit, and although its stamens and pistils appear large, they are without pollen, stigma and germen. Now one or other of these trees refutes the doctrine lately promulgated, "all varieties of plants when left to themselves take the sexual characters of their originals." The next query is, would scions or buds of the barren tree, worked on other stocks, produce fruit. Mr. Harper will no doubt part with a few twigs for experiment, so that those who believe in sexual mutation can convince themselves of the wisdom or folly of their theory. Philadelphia, July 14th, 1854. SAMBUCUS.



COCCUS INNUMERABILIS, (BARK LOUSE.)

Female Natural Size---Egg and Young Greatly Magnified.

Insects on Silver Maple and Linden Trees.

MESSRS. EDITORS:—The appearance of white downy, or cotton like globular tufts upon the branches of the Silver Maple and Linden trees in and about our city, has been the subject of much curiosity and speculation for more than a week past. Although their appearance is not entirely new to me, yet I never saw them in such vast numbers as they are on the trees in East King street near the new Court House. On examining one of the downy tufts under a glass, I found it contained 564 living insects, and over 300 eggs not hatched. As it was one of the smaller ones, it would be a fair computation to set down 1000 to each globular mass. On a branch one foot in length I counted 60 of these tufts, and allowing 100 feet of branches infested with them, we would have the enormous number of 6,000,000 of insects on a single tree, which, I think, falls short of the reality in reference to one of the trees alluded to.

Each tuft is partially covered by a scale or "scab-like" process, with one end adhering to the branch, and approximating in color and appearance to it. This is the parent female and is the production of last year's deposit. All on the trees alluded to have doubtless sprung

from a few, perhaps not more than a dozen, that matured there last year.

The insect belongs to the genus *coccus* (bark-lice) of the order *hemiptero*. According to Dr. Harris, an eminent entomologist of Boston, Mass., they may be destroyed by taking in the proportion of eight quarts of water, two quarts of soft soap and sufficient lime to make it to the consistency of white wash, and giving the branches a thorough painting with the mixture. Where trees only contain a few, I would recommend a small swab put on the end of a pole and dipped in thick tar, to which the cotton globules will adhere. Thus thousands may be removed and destroyed. Swabbing with a solution of common salt will destroy those who have escaped from their nests. As these insects belong to the sucltorial class, and live entirely upon the sap of the trees, there is no telling the amount of injury that may be done in another year. As I intend to publish an extended article upon these insects after I have more fully investigated them, I deem these few hints sufficient now.

Yours, &c., very truly,

S. S. RATHVON.

Lancaster, June 27th, 1853.

[The above from the pen of our esteemed correspon-

dent, S. S. Rathvon, originally appeared in the *Inland Daily*, but having had further opportunities of observation, Mr. R. has kindly acceded to our request, and noted them for the benefit of our readers.]

MR. EDITOR:—I am able to add little more to the history of the insect alluded to in the foregoing communication, that is of much importance to the general reader, any more than that it seems to be more abundant on some trees in this vicinity the present season than it was the last. From my own trees I removed all I could find last season, and cannot discover any there now. I, however, permitted them to remain upon the main stem of a common wild rose bush, which was destroyed entirely as far down as the surface of the ground. This I do not think would be the case with trees of vigorous growth in one, or even two or three seasons. I observed in trimming my trees in the spring, that those limbs from which these insects had been removed had not the smooth healthy appearance of those where they had not been, on the contrary they looked scruffy and diseased.

They are even much more numerous this season than the calculations I made on a former occasion. On a single branch brought to me, only 14 inches in length, there were over 150,000 of the eggs and young insects, a portion of which branch is represented in the above illustration; it is from a silver leaved maple tree, (*Acer dasycarpum*.)

The female is a brownish yellow on the back (1) until all the eggs are deposited, when she dies and turns to a darker color, and resembles what is known in common language as a "scab." Beneath (2) the female is of a dirty bluish-white, without any appearance of feet, and adhering closely to the bark of the smaller branches of trees by a simple anterior process, which I have not yet been able distinctly to discover. The posterior portion of the body of the female is free, to which is attached a "globular mass" of white, very elastic cotton like fibre, which serves as a shield or protection to the eggs. The eggs (3) are white or yellowish white, in shape similar to a common hen's egg and so minute as to be scarcely perceptible to the naked eye. The young (4) immediately after exclusion are also very minute, yellowish white, with a brownish line down the middle of the body, legs and antenna white, nearly of equal length, and the latter terminated by a seta or diverging hairs. The abdomen is terminated by two very slender, white, hair-like appendages about two-thirds the length of the body; there are also a few spiny hairs upon the legs and the anterior margin of the antenna, at the base of which are the eyes which are black and distinct. They occur in such countless millions that I propose to name the insect *coccus innumerabilis* until a better or a prior one may be found;—for I have never yet seen a description of them any where. I placed two small branches (each about a foot in length) in a perpendicular position in a basin of water, in order that the insects might not escape, and that I might be enabled to observe their gradual development, but they fell in such vast numbers into the water, that their dead bodies formed a bridge over which many of those later hatched passed to the outer rim of the basin. It is impossible to estimate the injury that may be done by them under circumstances favorable to their development. There are certainly vast numbers of them

destroyed one way or other:—By heavy showers of rain and storm, for although they are tolerably active, yet so delicate are they that in their incipient stages they are easily destroyed. Many of them also furnish sustenance to other predaceous insects, as I observed the larva, and also the adult of a species of "lady-bird" (*chilocorus bivulnerus* Muls.), in considerable numbers upon some trees near my residence that were infested with the coccus.

I have not been enabled yet to see or identify the adult male; he certainly does not survive the winter as there seems to be no necessity for him. I presume, however, he will not be found to differ much from the young, except the addition of wings, an extension of the anal filaments, and a perceptible increase in size.

These insects are usually found arranged along the sides and underneath the small and smooth branches of the trees they infest. In the early part of spring they are scarcely perceivable, being small scaly appearances that might be readily taken for something naturally belonging to the bark of the tree. About the middle of May the white cotton-like substance begins to appear, at which time the females commence depositing the eggs, which is accomplished in the beginning of June; about the 10th of which month the hatching process commences and continues for a week or ten days, when the young come forth from the cover that has hitherto protected them, and scatter in every direction over the trees. In the foregoing illustration the female is represented as the natural size, but the young and the egg are both greatly magnified.

For a further description of *cocci* in general, and the injuries that vegetation sustains from them, see Harris' Treatise, p. 218, Maunder's Treas. Nat. His., p. 137, Harper's Fam. Lib., p. 167, &c.

Since writing the foregoing, I have observed that those trees that were infested by the above insects extensively last year have been more or less injured: many of the smaller branches being entirely dead at the extremities, and new buds having shot out nearer the base. This would seem to suggest the propriety of "heading in" all the branches early next season, and making use of the wash recommended. I treated my own trees so and now there are no insects present, and the trees have acquired an additional density of foliage and beauty; whereas those in other places, left with nothing done to them, have the insect in greater numbers this season, and all in proximity to them, also, more or less infected.

The "silver leaved maple" (*Acer dasycarpum*, Esh.) seems to be the greatest sufferer, and there is not a doubt of the partiality of the insect for that particular tree, although they are also found on others when standing near them. In addition to the larvæ of the "lady-bird" mentioned, I have also observed the larvæ of a "lace-wing" (*Heimerobius*) very actively engaged in their destruction, and from the summary and adroit manner in which they "pick them up," I have no doubt thousands are thus destroyed daily; but this even seems to be a slow process compared with the countless millions that are brought forth at a single brood. After the young insects have all left the parent nest, they leave a concretion of such fine, white, elastic and soft fibre at-

tached to the tree, that it might be worthy the trial of an ingenious head and hand to spin and weave it into some kind of fabric that would be of use. The fine, white dust amongst it might possibly also be a substitute for pearl-powder.

S. S. RATHVON.

Lancaster, June 21st, 1854.

Lightning Rods.

FRIEND DARLINGTON:—Allow me a small niche in the Farm Journal for a few brief remarks concerning *lightning rods*.

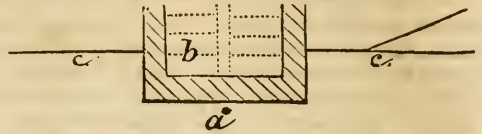
"Led by the phosphor light, with daring tread,
Immortal Franklin sought the fiery bed
Where nursed in night, incumbent Tempest shrouds
His embryo thunders in circumfluent clouds,
Besieged with iron points their airy cell,
And pierced the monsters slumbering in their shell."

Yes! the memory of Franklin has been immortalized by the sublime idea of the identity of *electricity*, as excited by the friction of a glass tube, and the *lightning*, which glares in the heavens, and rends the sturdy oak with its desolating stroke—and, still more, by the grand *conception* and bolder *execution* of the proof of its correctness. This once established, it was a natural and easy inference that they are governed by the same laws; and consequently that a pointed metallic rod, properly circumstanced, would silently draw off the lightning from the cloud before it came within striking distance of an object, just in the same manner which it was known to do from the *prime conductor* of his electrical machine. The prime conductor very aptly representing the cloud, and the table the earth in miniature. Brilliant, but in some instances disastrous, experiments verified the truth of the inference. In accordance with these views, lightning rods have been extensively employed for the protection of life and property, and the security which they afford has been obvious. It must, however, be acknowledged that the protection has not been complete. Too often, instead of preventing an explosion, as in theory they ought to do, the rod has been struck, and after following it to, or near to, the surface of the earth, the fluid has left the conductor, and, by a kind of *lateral stroke*, passed into the basement of the building.

The purpose of this paper is to call my readers' attention to the cause of the failure alluded to. Either we must more strictly attend to what we do already know respecting the construction of lightning rods, or some additional knowledge must be obtained before we can confidently rely upon them for protection. It has been usual to explain the failure by saying that dry earth is a non-conductor of electricity, and when the earth around the base of the rod becomes dry, it has the effect to insulate it, and prevent the passage of the fluid into the ground. This is entirely correct, and, in many cases, fully adequate to explain the phenomenon in question, but not in all. Where the rod penetrates far below the surface in situations, and in seasons, where the earth cannot possibly become dry, we must seek a different explanation.

In a case which recently occurred the rod was deep in the ground, which was not unusually dry the yard around the house was level, densely covered with short grass, and completely inundated with the falling rain. The rod was struck, the fluid passed down it to the ground,

then taking a lateral course passed through a thick stone wall into the cellar, completely tore to pieces a dry oak joist, and then passing out through the wall on opposite sides of the house, cut paths through the grass across



both the front and back yards. The diagram will show this curious freak more clearly: a. the rod at the west end of the house; b. the joist which was torn to pieces; c. c. paths through the yard, about an inch wide, in which the grass was cut off very close, with the appearance of having been scorched, and the fragments scattered many feet around.

It is generally admitted that the electric charge resides upon the surface of the charged body, and that a kind of electrical atmosphere is formed around it, the density and extent of which is mainly proportionate to the intensity of the charge. This is the result of the combined action of two forces—the *attraction* between the body so charged and the electric fluid, and the *repulsion* between the particles of the fluid itself. But if this is true when a body is permanently charged, or when the fluid is in a state of repose, it must be equally true when the charge is only transient, or when the fluid is in a state of transition along the charged body, as from the cloud to the earth. Any circumstance in the construction and adaptation of the rod, which would prevent the formation, or impede the transition of this electrical atmosphere, must have the effect of rendering it inoperative.

If the views thus briefly noticed are correct, it would not seem unreasonable to suppose as the earth becomes compacted and consolidated around the base of the rod, that it must prevent or very much impede the passage of an electric atmosphere along that portion of the conductor which is beneath the surface. The idea may be original for what I know, but I am willing to throw it out for the consideration of those who are more conversant with electrical science, and possessed of better means of testing its truth by direct experiment. If nothing more, it may elicit further inquiry upon this interesting subject.

E. M.

New Garden, June 10th, 1854.

"Wheat vs. Cheat," &c., Answered.

MR. DARLINGTON:—The prevalence of the erroneous idea, that wheat turns to cheat, seems to be fraught with so much mischief to the best principles of farming, that, though myself an humble backwoodsman, I cannot forbear casting in my mite, with others, to endeavor to repel the encroaching evils whenever an opportunity offers.

Mr. Miller, of Northumberland county, thinks he has arrived at something "conclusive" when he finds a ten acre field, after producing two successive crops of wheat, without cultivation, fail of producing the third, and for want of a suitable kind of seed, bring nothing but a crop of cheat. There are some farmers who have met

with circumstances similar to this and even more difficult to be explained, without being at all shaken in their belief in the all sufficiency of Nature's laws.

There is one conclusion to which I think farmers ought to come, from the circumstance related by Mr. M., i. e. to take the advice of Dr. Franklin,

"Plow deep while sluggards sleep—"

and never depend upon a volunteer crop. "An enemy" is always ready to *volunteer*, and sow tares in our wheat. Without doubting a single word which the gentleman has stated *as fact*, permit me to lay his "conclusion" aside for the present, and in as few words as justice to the subject will admit, investigate this case a little further, before throwing the blame of ill success, consequent upon careless or slovenly farming, upon Dame Nature. It is a well known principal, that rotation of crops, is as well the natural as the proper method of farming;—that a piece of ground may be entirely exhausted of some necessary ingredient for the production of a certain kind of grain, and yet rich enough to produce a crop of another kind. It is also well known, to practical farmers, that rye and cheat follow wheat;—that a field which will not produce wheat at all, will produce a good crop of rye or cheat, without any manure. Is it not then most probable that in Mr. Dresback's first crop of wheat, there was a *little* cheat? There is a *little* in many a fine crop. That the ground being in proper condition for wheat, which it must have been, the cheat was kept down by it, that it scarcely shows at all; but, the crop being left till "quite ripe," the cheat, which falls out more easily than wheat, nearly or quite all fell to the ground, and sprung up with the wheat. The soil having just produced a heavy crop of wheat, was now in a condition to admit the two grains upon a more equal footing, and the cheat probably gained upon the wheat; but the latter having the advantage in numbers, still kept above it, and produced a *tolerably good* crop. *Certainly not* as good as the first, but it was a *volunteer*, and under the circumstances it might be called a *very good* crop; true *there is a little cheat* in it, but that can be cleaned out, and so the matter was settled that it was a fine crop. This again was permitted to become very ripe in order to seed the ground for a third, and again a considerable quantity of the cheat fell to the ground, which, having just produced, without cultivation, one and a half crops of wheat, and only about half a crop or less of cheat, gave the preponderance decidedly to the latter, which sprung up and gave the farmer just what he deserved, and what any *observant* farmer would, without calling the ghost of Samuel, certainly have looked for—a crop of cheat with "scarcely a head of wheat."

Now, Mr. Editor, is it at all fair for a farmer, after having been guilty of such palpable neglect upon his part, to endeavor, without any further investigation than that which he has given, to endeavor to throw the blame of his non-success upon some imperfection in the laws of nature, and to bring up a *sort* of philosophy to prove that he is right and nature wrong? But, let us examine a little *what sort* of philosophy he has produced.

He says "there are freaks of nature, and it is not more contrary to the principles of philosophy, nor to the agency of Divine Providence, to find an entire field of wheat turning to cheat, than a single stalk." This we will admit. But who has ever seen a "single stalk of wheat turning to cheat?" That is the question! There

are freaks of nature, or, rather, nature is sometimes forced to submit to unnatural freaks of sociability, both in the vegetable and animal kingdoms; the inevitable result of which is monstrosity. But cheat is not a monster! Monsters have not the power of re-production, and that cheat has, is a fact so easily proved, that no farmer ought to contradict or even doubt it for a longer time than a single year. An experiment of a few hours labor, during the year, will be sufficient to convince any body, that cheat produces its own kind as naturally as any other grain. Hence the error in the statement that "it is not more of a freak of nature for a stalk of wheat to turn to cheat than for a child to be born with the head of a horse." When the Northumberland philosopher points us to a child with the head of a horse, possessing sufficient vitality to bring it to maturity and enable it to re-produce its own kind so as to people a country with children with horses heads, then will we be constrained to admit that the cases are analogous! That creative power is still emerging upon earth, that the "six days" have not yet expired, and consequently the scriptural statement that God "ended His work on the seventh" is a mistake, or else that His laws are confounded, and that confusion and chaos must soon cover the face of this fair earth. The philosopher thinks his statement "shows conclusively that there is an affinity between wheat and cheat" because, without producing either monster or mongrel, the wheat perished and the cheat grew and flourished. Now, admitting that there were affinity between the two grains, sufficient to produce both upon the same stalk, whenever they came into close contact, which we are *not* at all prepared to do, it would be no argument in favor of any one kind of grain alone changing into another known kind. Therefore, we still believe in our motto, "Clean seed upon clean soil, and a clean harvest will follow."

Yours Respectfully,

FRANCIS SCHREINER.

Moss Grove, Crawford county, June 21, '54

Large Hogs.

MR. DARLINGTON:—In the June number of your Journal a correspondent, who signs himself H. J., gives an account of some Chester county hogs, which is very good. First he tells you that he is not boasting about them; but I think at the winding up he is boasting very largely. We farmers of Gloucester county do not consider ourselves the best in the State for raising large hogs, but I will tell you what was done last killing time, in the adjoining (Burlington) county, where they *do profess to raise large hogs*.

The following is an exact account of two pens of hogs and pigs raised and fattened on one farm. First:—490, 400, 412, 448, 458, 490, 554, 520, 430, 510, 444, 470, 500, 520, 480, 520, 456, 530, 408, 455, 485, 506, 457, 470, 424, 478, 475, 457, 423, 485, 400, 453, 360, 400, 382, 308, 390, 415, 352, 378, 418, 338, 376, 455, 358, 455, 445, 388, 380, 388, 448, 470, 510, 497, 433, 390, 400, 443, 398, 440, 430, 481, 500, 473, 465, 468, 478, 466, 532, 430, 438, 426, 470, 482, 532. Total, 33,495. Second pen, of late Spring pigs:—262, 258, 238, 350, 204, 260, 278, 246, 256, 250, 328, 242, 204, 232, 244, 224, 240, 280, 290, 260, 220, 270, 216, 250, 228, 282, 242, 250. Total, 7,104. Whole weight of both pens, 40,599 pounds, from one hundred and three hogs.

None of these were at the exhibition to get a prem-

ium. Will H. J. hunt up a pen of twenty-five or fifty hogs in Chester county to beat it, and not to pick out five or six of the premium hogs and want us to beat them, but take a large pen?

I should be pleased if H. J., and his neighbors, would visit our exhibition, to be held at Woodbury, on the 19th of September, where he can see something beside hogs, sweet potatoes and water-melons.

PHILIP A. MASON.

Hazledell Farm, Gloucester co., N. J., July 4th, 1854.

Digging Machines.

As there is considerable speculation among farmers, about the merits of the new digging machines, which, it is said, will supersede the plow, we have been looking for some account of its progress in England, and find in a late number of the English Agricultural Gazette, a letter from a farmer who purchased one in 1853, and says his favorable impression is confirmed by another year's trial of it. He has used it on all his turnip fallows, and found it superior to any other implement, both in the economy of labor and the excellency of its work. He finds two horses and three bullocks, will do three acres per day, on a strong retentive loam.

To Preserve Fence Posts.

A writer, E. H., in the Rural New Yorker, speaks confidently of the following preserving posts:—"I prepare my posts for setting, and then let them season. I then take coal tar, and paint them with three coats of the same. I paint the post from about four inches above where they set in the ground to the bottom, and the end that sets in the ground also,—putting the paint on hot. A gentleman informed me that he had known a fence set in this way, that had stood forty years, and was as permanent then as at first. I think this way is easier and cheaper than lime, and more durable."

Work for the Month.

FARM.—At no season of the year is greater care required to prevent weeds from going to seed than during this month. Remember that weeds, like some other things, grow from seed, and that if they be entirely prevented from seeding, the seed now in the earth will soon be exhausted, and that the prudent farmer will only have to contend against those blown by the wind, or washed by rains from the fields of his more careless neighbor. The cultivator and the hoe should be in requisition in the corn field, among potatoes, &c., and the briar scythe should now be used wherever required. Briars cut the early part of this month are less liable to sprout than if cut at any other season. Weeds, &c., may be gathered into heaps and composted with ashes, soil or other substance, but care should be taken that the seeds be well rotted before the compost is used. When there is danger of this not being the case they had better be burned. Large potatoes should be kept well cultivated, which obviates to some extent the effect of dry weather, usually prevalent this month. Ground for wheat should be plowed as soon as oats is gathered, and allowed to lay till towards seeding time, when guano or manure should be spread and plowed in. Twice

plowing, and the consequent fine pulverization, greatly facilitates the germination of grass seed, and enables the drilling to be much better done. The advantages of drilling over broadcast sowing have been so fully tested, that it is presumed no good farmer will continue the latter if a drill can be obtained. Much of time after harvest and before seeding is occupied with hauling out manure. This should be spread evenly, and plowed in as soon afterwards as possible. Much of the manure now taken on may be compared to the dregs of tea, after repeated infusions to obtain all its strength. The usual practice of letting it lay exposed in yards all summer, open to sun and rains, will have dissipated the best and largest portion of its virtue. What little is left had better be saved by plowing in at once. Turnips should now be sown on ground vacant from early potatoes, or other removed crops. Drilling in rows will admit of easier cultivation and management. Feeding cattle and cows suffer considerably this month in their condition from the dry weather and torment from flies. Where they have access to shade and water to stand in and cool themselves, they abandon the open fields during the heat of the day. This matter of shade trees for stock is too much lost sight of by farmers. It is as grateful to them in hot weather as us, and considerably promotes their thrift and comfort. Milch cows now generally fall off in their milk, and should have a portion of sown corn fodder occasionally. Have a lump of rock salt convenient of access in each field. Ditches and drains should now be opened and cleaned out, and the stuff hauled to the compost heap to mix with the weeds. Cradle and grass scythes should be oiled, and with other harvesting tools, collected and laid away for another season in a dry place. Those who enjoy a fire of dry hickory wood in the winter season should remember this is the best month for cutting it. It will now season perfectly, and not become worm eaten. The same rule applies to oak and chesnut for fencing purposes, which have been very fully proven to last much longer.

VEGETABLE GARDEN.—Keep the ground well stirred and weeds destroyed. Peas may be sown for fall crop. Carry off pea haulm and refuse stuff to the compost heap. Cut and gather such herbs as are in flower, and lay them in a dry and shady place. Take up onions and onion sets, and prepare ground for other crops. They should be dried and hardened by exposure to the sun before laying away. Gather seeds as they ripen. In the latter part of the month cabbage and lettuce may be sown for cold frames. Also, onion seed to stand the winter. Turnips, spinach and radishes may be sown now. Earth up the celery as its growth requires. Transplant endive.

FRUIT ORCHARD.—Pears, cherries, apples and plums may be budded this month whenever the sap flows freely, and the bark will separate. Buds for insertion should be well ripened. Strawberry beds may be planted out, advantage being taken of a damp time. Finish summer pruning of fruit trees and vines. Apply wash before recommended to trunks of trees, if not previously done. Thin out fruit where trees are overloaded. Cut out all blighted limbs.

FLOWER GARDEN.—Tie up dahlias to stakes, and attend to general directions of last month.

Farmers' High School.

A preliminary meeting of the Board of Trustees, in accordance with the provisions of the act to incorporate "The Farmers' High School of Pennsylvania" was lately held, but not much business transacted. A committee was appointed to procure further legislation and to issue an address. Another committee was appointed to solicit subscriptions for the purchase of the farm. Judge Watts is chairman of both committees.

Monongahela Valley Agricultural and Horticultural Society.

This Society will hold their second annual exhibition at Monongahela City on the 28th and 29th days of September. An excellent premium list is published, and the Farm Journal, and agricultural periodicals of other States, are offered as inducements to exhibitors, in addition to premiums in cash. Where societies are in their infancy, as this one, and expenses of enclosing grounds, &c., heavy, the plan is a good one, as well as in other cases, to offer such works as premiums. Wherever they circulate they are sure to create a taste and enterprise for agricultural knowledge and improvement. If some few hundred copies of the Farm Journal were subscribed for by each of the county societies in the State, and distributed as premiums, or circulated gratuitously among their farmers, we are sure it would tell with good effect. D. Moore is the President of the Board of Managers of the Monongahela Valley Society, and J. W. Smith, Secretary. A splendid horse ring for display of horsemanship is to be provided inside the enclosure.

Dauphin County Society.

The first annual fair of the Dauphin County Society will be held on the common around the arsenal at Harrisburg, on the 13th, 14th and 15th days of September. A most excellent address is published in connection with the premium list by the President of the Society, David Mumma, Jr., inviting the farmers, manufactures and other citizens of the county to lend their aid in making this their first exhibition a creditable one. As is well remarked, "to do so needs but the will." Dauphin county contains some of the best farmers, as well as some of the best stock, in Pennsylvania, and we have no doubt the anticipations of the energetic President of the Society will be realized. An address is to be delivered at one o'clock, P. M., on the 15th, and a plowing match is to take place on the same day at 9, A. M.

Lawrence County Society.

The Agricultural and Horticultural Society of this county will hold their fair this season on the 11th, 12th and 13th of October. We obtain this information from a letter from the Treasurer, but have yet seen no schedule of premiums, and do not know of the place of exhibition.

Montgomery County Society.

The Montgomery Agricultural Society will hold their exhibition this season at Springtown some time in October. The exact time we have not yet ascertained, but hope some one of the officers will inform us. A liberal and extensive premium list is published. A plowing

match is to take place on the second day of exhibition. A diploma and \$20 is offered for the best farm not less than 60 acres, reference being had to the general condition of the land, appearance of crops, convenient arrangement of buildings, state of fences, care of manure, and good order of entire property. Award to be made on the second Monday of August, 1855.

Cumberland County Society.

The first annual exhibition of the Cumberland County (New Jersey) Agricultural Society will be held at Bridgeton, on Thursday, the 15th of September next.

Tioga County Society.

The first annual exhibition of the Tioga County Agricultural Society will be held at Tioga village on Wednesday and Thursday, October 4th and 5th. John W. Guernsey is chairman of the committee of arrangements and marshal of the day. There is also a ladies' committee of arrangement and a discretionary committee. A large premium list is published, and the arrangements are calculated to promote an orderly and satisfactory exhibition both to exhibitors, spectators and judges. We wish this their first fair the best success. William B. Clymer is President of the Society. A plowing match is also to take place.

Delaware County Society.

Although an Agricultural Society has but very lately been organized in this flourishing little county, they have concluded to hold an exhibition (their first one) on the 14th, 15th and 16th of September, in the borough of Chester. Very liberal premiums are offered for almost every thing agricultural, horticultural and mechanical, for the best flour, butter, cheese, ice cream, honey, best cultivated flower garden, do farm, flowers, bouquets, designs, fruits, vegetables, hams, household manufactures, manufactures of iron, steel, harness, boots and shoes, bricks, cabinet ware, cotton and woolen goods, fishing skiffs, and corn brooms. The miscellaneous list includes every thing else. Our neighbors in Delaware county propose to take a wide swath, and as they never do any thing by halves, we shall expect an exhibition quite up to, if not a little *ahead of*, the times.

Importation of Cattle.

The valuable stock, both cattle and sheep, purchased in England for the Ohio Importing Company, and noticed in our last number, page 229, we are happy to state have arrived at Philadelphia in the ship T. W. Bailey. They were landed in excellent order, except one bull which died on the passage. The cost of the purchase was about \$20,000. One of the bulls, a year old in January last, weighs upwards of sixteen hundred pounds. They were all obtained from the best sources in England, and are one of the most valuable importations ever made, and an acquisition to the substantial wealth of the whole country.

Proper Food of Man.

We have received from Fowlers & Wells, publishers, 308 Broadway, New York, a small work entitled "Fruits and Farinacea, the Proper Food of Man," being an at-

tempt to prove from history, anatomy, physiology and chemistry that the original, natural and best diet of man is derived from the vegetable kingdom. It is divided into different heads, and handsomely illustrated. Price 25 cents.

Pennsylvania Horticultural Society.

The stated meeting of this Association was held in the Sansom Street Hall, on Tuesday evening, July 18. The President in the chair. The display exceeded anticipations for mid-summer, where little from conservatories could be expected. There were six large collections of green-house plants, among which were many of much beauty and interest. The new plants from Mr. Cope's were objects of attraction, especially so the *Nepenthes lavis*, a new species of the pitcher plant in bloom. The finely flowering plants from Mr. Fahnestock's were admired; the choice varieties of Mr. Knorr commanded attention; the flourishing specimens in Mr. Buist's were noticed, and the well grown, large plants in Gen. Patterson's and Dr. Rush's merited praise. The fruits comprised delicious Grapes from three green-houses—the Black Hamburgs; White Sweet Water, from Eden Hall; the Black Hamburg and White Frontignac, from the Insane Asylum, and the White Frontignac, from Mr. Cope's, were specimens seldom surpassed at this season of the year. The Peaches from the latter were very handsome; the Gooseberries from Mr. Baxter were large; a Fig, weighing six ounces, was brought by Dr. Rush's gardener. Apricots, Pears, Raspberries, Gooseberries, &c., from various sources, served to complete the exhibition of fruits. Vegetables of the best quality came from A. L. Felten's and Alfred Cope's grounds.

Premiums were awarded as follows:

Collection of 12 plants, for the best, to Thos. Robertson, gardener to B. A. Fahnestock; for the second best, to James Kent; for the third best, to Isaac Collins, gardener to Gen. Patterson; and a special premium for a collection to Robert Buist. Specimen plant, for the best, to Thomas Robertson; for the second best, to Wm. Sinton, gardener to Dr. Rush. New plants, shown for the first time, a premium of five dollars was awarded to Jerome Graff, gardener to C. Cope, for *Nepenthes lavis*, &c.; and one of a dollar to Meehan & Saunders, for a fine Petunia. Basket of cut flowers—For the best, to Jerome Graff; for the second best, to James Kent; of indigenous flowers, to Meehan & Saunders. Bouquets—Pair, for the best, to Jerome Graff; for the second best, to James Kent; and a special premium of two dollars, for Seedling Hollyhocks, very fine, to Paschall Morris & Co., West Chester. The Committee noticed a fine specimen of *Crinum amabile*, from Dr. Rush's houses.

By the Fruit Committee—Grapes, black variety, for the best (Black Hamburg) to John Riley, gardener at the Insane Asylum; for second best (same kind) to A. Smith, gardener at Eden Hall; White variety, for the best, (the white Frontignac) to John Riley; for the second best, (the white Muscat) to Anthony Smith. Apricots—For the best, to William Johns; for the second best, to A. Parker. Plums—For the best, to Isaac B. Baxter. Figs—For the best, to Jerome Graff, gardener to C. Cope. Gooseberries—For the best, to J. B. Baxter; for the second best, to the same. And a special premium of two dollars for a dish of Peaches, to Jerome Graff.

By the Committee on Vegetables.—Tomatoes—For the best, to Wm. Barry, gardener to Alfred Cope; for the second best, to James Jones. For the best display by a market gardener to A. L. Felten, and for the best display by a private gardener, to Wm. Barry, gardener to Alfred Cope.

The Secretary was ordered to report the amount of loss

sustained by the Society, at the late fire at the Chinese Museum.

The subject of holding the Autumnal Exhibition, the place where, and time when, and of providing a hall for stated meetings, were referred to the Committee to Superintend Exhibitions.

Six gentlemen were elected members.

Deep Ploughing.

The following extract from an essay "on worn out Lands" by Charles Painter, we copy from the American Farmer. If we mistake not, the author formerly resided a few miles from West Chester, on what was then as well as now, one of the very best farms in this section. No one is better able to speak of the advantages of improved farming.

"The practice of plowing *deep—deep!* cannot be too highly recommended in every and all soils. Many farmers have an erroneous impression, that if the sub-soil is brought to the surface its apparent want of *strength* will injure the quality of the surface soil; but if they will reflect that all trees, and very many plants draw their nourishment from the depths of the earth, where the plow cannot reach, it will be admitted there must unavoidably be found there matter of a fertilizing nature. The writer has seen the most astonishing effects produced by turning up to the surface three inches of what *had been* sub-soil!—in one instance where the land had been in cultivation under a ruinous system for more than half a century, and had become completely impoverished, it was made to yield at least two tons of clover and timothy to the acre, without any other assistance whatever than deep plowing.

"There is no doubt whatever, that those two or three inches of sub-soil now lying dormant under tens of thousands of acres of *poor land*, if brought to the surface and properly pulverized and incorporated with the soil, would be equally valuable with a costly application of manure.

"It is not contended that wonderful results would be produced in *every* poor soil by the means above specified, but where the *virgin soil* has been fertile, there, without doubt, may the constituents of rich earth be found, perhaps hoarding up for ages the very fat of the land, and awaiting only the plow-share to restore it to its destined uses."

Striped Bug on Squashes, Cucumbers &c.

A correspondent of the Boston Cultivator, writes as follows about this destructive insect, and although we do not see the philosophy of the remedy, it is so easy of trial as to commend itself to the attention of the gardener who will please report his success to the Farm Journal.

"Last week the 'striped bug' came in showers, on my vines, and in less than two hours the latter were covered with them. It appeared as if they would be devoured. I put on plaster (gypsum) but it did not remove them. I then put on a quantity of coal ashes, about half a pint to a hill, by sifting it on, and in less than an hour not a bug was to be seen. Then, to try the comparative effect of plaster and ashes, I put ashes on one hill and plaster on the next, and so on alternately, and I found in all cases where the ashes were put on, the bugs left, while they remained where the plaster was used.

"I found my melons beset with the small black bug that so often destroys melons and cucumbers. I directed my man to put ashes on them, and I was much pleased to find the insects immediately left them, and they have not re-appeared. I feel confident that the ashes of either hard or soft coal will prove a sure remedy for keeping bugs from the vines; and as they are now considered almost worthless, I think we shall find that no individual thing is made in vain."

An Offer.

We have had it in contemplation for some time past to introduce female compositors into this office, and now that our new building and other arrangements are completed propose to engage two female assistants in the composition and packing departments. As most of our lady readers may be unacquainted with this branch of industry, we will state that the labor is light, and peculiarly adapted to female hands. The exertion required is, in no case, greater than in ordinary sewing, but it is far more healthy and agreeable. What is most essential is an accurate knowledge of orthography, and a quick comprehension, united to habits of industry.

Apprentices to the printing business are seldom taken for less than three years, but in order to bring our offer as near the condition of females as possible, we will contract this period to one year, during which we think an intelligent lady can acquire a thorough knowledge of the compositor's art; and we hazard little in stating, that, at the end of this period, she can obtain from a dollar to a dollar and a half per day. Press work, which, a few years back, was an important branch necessarily learned by all printers, is now chiefly done by machinery, and few compositors have latterly acquired a knowledge of this part of the trade.

Any further information desired will be furnished by application to the publishers in person or by letter.

Mr. and Mrs. Sparrowgrass.

RETIRE FROM THE CITY TO ENJOY RURAL LIFE

When Mrs. Sparrowgrass and I moved into the country with our heads full of fresh butter, and cool, crisp radishes for tea; with ideas entirely lucid respecting milk, and a looseness of calculation as to the number in a family it would take a good laying hen to supply with fresh eggs every morning; when Mrs. Sparrowgrass and I moved into the country, we found some preconceived notions had to be abandoned, and some departures made from the plans we had laid down in the little back parlor in avenue G.

One of the first achievements in the country is early rising—with the lark—with the sun—while the dew is on the grass, "under the opening eye-lids of the morn," and so forth. Early rising.—What can be done with five or six o'clock in town? What may not be done with those hours in the country? With the hoe, and rake, the dibble, the spade, the watering pot? To plant, prune, drill, transplant, graft, train, and sprinkle? Mrs. S. and I agreed to rise *early* in the country.

"Richard and Robin were two pretty men,
They laid in bed till the clock struck ten:
Up jumped Richard and looked at the sky:
O brother Robin the sun's *very* high!"

Early rising in the country is not an instinct; it is a sentiment, and must be cultivated.

A friend recommended me to send to the south side of Long Island for some very prolific potatoes—the real hippopotamus breed. Down went my man, and what with expence of horse hire, tavern bills, toll gates, and breaking a wagon, the hippopotami cost as much apiece as pine apples. They were fine potatoes though, with comely features, and large, languishing eyes, that promised increase of family without delay. As I worked my own garden, (for which I hired a landscape gardener at two dollars per day to give me instructions) I concluded that the object of my first experience in early rising should be the planting of the hippopotamuses. I accordingly rose next morning at five, and it rained! I rose next day at five, and it rained! The next, and it rained! It rained for two weeks! We had splendid potatoes every day for dinner. "My dear said I to Mrs. Sparrowgrass, "where did you get these fine potatoes?" "Why said she innocently, "out of that basket from Long Island!" The last of the hippopotamuses were before me, peeled and boiled and mashed and baked, with a nice thin brown crust on the top.

I was more successful afterward. I did get some fine seed

potatoes in the ground. But something was the matter; at the end of the season I did not get as many as I put in.

Mrs. Sparrowgrass, who is a notable house wife, said to me one day, "Now my dear, we shall soon have plenty of eggs, for I have been buying a lot of young chickens." There they were, each one with as many feathers as a grasshopper, and a chirp not louder. Of course, we looked forward with pleasant hopes to the period when the first cackle should announce the milk white egg, in the hay, which we had provided bountifully. They grew finely, one day I ventured to remark that our hens had remarkable large combs, to which Mrs. S. replied, "Yes, indeed, she had observed that; but if I wanted to have a real treat, I ought to get up early in the morning and hear them crow. "Crow," said I faintly, "our hens crowing! Then by the cock that crowed in the morn, to wake the priest all shaven and shorn, we might as well give up all hopes of having eggs," said I, "for, as sure as you live, Mrs. S., our hens are all roosters!" And so they were roosters! That grew up and fought with the neighbor's chickens, until there was not a whole pair of eyes on either side of the fence.

A dog is a good thing to have in the country. I have one which I raised from a pup. He is a good, stout fellow, and a hearty barker and feeder. The man of whom I bought him, said he was thorough bred, but he begins to have a mongrel look about him. He is a good watch dog though, for the moment he sees any suspicious looking person about the premises he comes right into the kitchen and gets behind the stove. First we kept him in the house, and he scratched all night to get out. Then we turned him out, and he scratched all night to get in. Then we tied him up at the back of the garden, and he howled so that our neighbors shot at him twice before daybreak. Finally we gave him away, and he came back; and now he is just recovering from a fit, in which he has torn up the patch that had been sowed for our spring radishes.

A good strong gate is necessary article for your garden. A good, strong, heavy gate, with a dislocated hinge, so that it will neither open nor shut. Such an one as I had last year. The grounds before my fence are in common, and all the neighbor's cows pasture there. I remarked to Mrs. S., as we stood at the window in June last, how placid and picturesque the cattle looked, as they strolled about, cropping the green herbage. Next morning I found the innocent creatures in my garden. They had not left a green thing in it. The corn in the milk, the beans on the poles, the young cabbage, the tender lettuce, even the thriving shoots of my fruit trees had vanished. And there they were looking quietly on the ruin they had made. Our watch dog, too, as fore-gathering with them. It was too much, so I got a large stick and drove them all out, except a young heifer, whom I chased all over the flower-beds, breaking down my trellises, my woodbines and sweet-briars, my roses, and petunias, until I cornered her in the hot-bed. I had to call assistance to extricate her from the sashes, and her owner sued me for damages and recovered. I think I shall move back to town.—*Knickerbocker Magazine.*

From the Germantown Telegraph.

Road Wash.

MR. EDITOR:—Every means for enriching the soil should be attended to by the farmer, to whom the business is often one of considerable expense and trouble. It is well known that a very large quantity of valuable manure is annually dropped in the highways, where it is carried by the rains, into the ditches and gullies which ordinarily skirt the traveled way. Now this rich matter may often be conveyed into fields simply by opening proper drains and erecting slight dams to facilitate its flow over the lands where its presence is most needed. It is seldom the case that a farmer's lands are so peculiarly situated as not to admit of his availing himself of this valuable wash to some extent. I have known extensive fields kept in good heart simply by the wash from the highway, and where every person whose situation favors the undertaking, to exert himself to secure this liquid wealth, a very important general saving would be the result. It sometimes happens that a deep gully, or hole by the side of the road, receives the spring wash, and gradually becomes filled with a deposit of the richest and most valuable manure. Where this is the case, it is an excellent plan to cart into such places a quantity of loam or good muck to absorb the liquid, and thus add to the quantity which can afterwards be carted out and applied as circumstances may demand. I have known

large quantities of excellent compost to be made in this way and at very slight expense. All the refuse matter about the farm buildings may here be wrought up to good advantage, as well as the spurious or worthless vegetations of the fields, pastures and even woodlands. Rotten leaves, rotten wood, bushes, brakes, chip manure—in short anything that will decompose may here be deposited and remain till time breaks down the fibrous texture, and by the assistance of the periodical influx of the wash, converts the whole into a valuable manure for the soil. Such places are often more favorably adapted for the prosecution of this business, than the barn or compost yards; the materials to be converted into manure are not out of the way, and present no obstacle to the prosecution of other employments; besides, they are receiving continuous accessions from a source, the wealth of which is to be regarded, strictly speaking, as an actual gain.

Farmers will find this subject worthy of serious consideration in the business of enriching their lands and crops.

ONE WHO KNOWS.

Why don't Ladies Learn to Cook.

Among the common things to the teaching of which public attention is now so strongly directed, it is to be hoped that the art of cookery—one of the commonest, and yet, apparently, one of the most neglected of all—will not be forgotten.—The instruction of the female peasantry in this useful art would be as advantageous to themselves when married and settled on their own hearths, as to the families of the middle classes, in which before marriage they officiate as domestic servants. Emigration and abundance of employment have given to the servants at home the upperhand as completely as if they were in Australia. On all sides we hear complaints of the difficulty of finding, and of retaining when found, a cook who can roast a leg of mutton, and make batter pudding or pea-soup. In point of fact, we have heard of ladies who have it in serious contemplation to dispense with servants altogether, as the least troublesome alternative. Without wishing matters carried quite so far, we are convinced that many of our fair friends would lose nothing, either in point of respectability or happiness, while they could add at least one-third to the effective incomes of their husbands, if they were to spend a little more time in their kitchens superintending the preparation of the family dinner, instead of contenting themselves with ordering it—if, indeed, they condescended to do even that. Some forty years back ladies were driven to shoemaking as a fashionable way of killing time. Why not try a little cooking? Thanks to the modern stoves with their nicely arranged skillets and stewpans, which science and skill have substituted for the blazing kitchen hearth of other days, young ladies of the nineteenth century just passing its prime, may cook without soiling their fingers or injuring their complexions. Were it not so, we would not recommend them to cook. We would rather live on bread and cheese all our lives.

It will be said, perhaps, that our notions with regard to female education and employment are too antiquated—that in these matters, as in everything else, a new era has dawned, and the solid course of instruction now given in colleges for ladies will be triumphantly appealed to. Ladies, however, who possess these solid acquirements—who like Lady Jane Grey, prefer Plato to a picnic—will be least likely to neglect the economy of the kitchen. They will thoroughly understand the dignity of the employment, and call to mind all the poetry of cooking. To say nothing of the dinner which Milton describes Eve as preparing when “on hospitable thoughts intent,” there are the Homeric banquets, at which kings literally “killed their own meat,” and at which queens and princesses turned the spit for the roasting, or drew the water and chopped wood for the boiling. Cooking is classical, and no lady will disdain to take part in it who has read of these feasts in the original Greek. Let it be observed that it is the middle and wroking classes on whom we wish to urge the importance of the study. An earl's daughter can afford to be so ignorant of common things as not to be able to recognize chickens in a poultry-yard, because they do not run about with a liver under one wing and a gizzard under the other, though our modern poultry shows, it must be confessed, have done much to dissipate this error. A knowledge, however, of the art of cooking is of more importance to the wives of the laboring population than to those of the middle classes, because it is the art, when properly cultivated, of making a little go a great way. A French army can subsist in a country where an English one would starve, and chiefly for this reason—a French soldier can cook.—[*Mark-Lane Express*.]

Culture of the Cranberry.

The culture of this fruit is beginning to demand some attention in Maine, but the best method of doing it among us, is yet a problem to be solved by many experiments and much observation. We have two facts to start upon. The first is this: The cranberry is indigenous in, that is to say a native of, our low lands, growing naturally in many places from Kittery to Calais, and from Harpswell to Madawasca. The second fact is this: on whatever soil it may be placed, a good supply of water is necessary to its growth and productiveness.

There are two other facts that should be remembered in regard to the culture of this fruit, namely, it has two enemies which often destroy the crop. One of them is a worm which attacks it about flowering time and eats it so badly as to prevent any fruit from forming. The other is frost. Later spring frosts often kill the flowers and prevent fruit from forming, and early fall frosts injure the fruit that has escaped the other enemies.

One more fact should be remembered, namely, in Massachusetts it has been found that flowing the land from the time of gathering, say the middle of October till May, and if the worm comes, flow again, prevent his operation, and also the effect of late spring frosts, and occasional flowing in the fall when early frosts are expected, will prevent the injury which such frosts do the fruit.

We do not mean that the water should be laid on so as to put the vines under water “forty fathom,” as a sailor would say, but sufficiently to keep the vines out of the way of the fly that lays the egg from which the worm comes. Mr. Leland, of Sherborn, Mass., as reported in the transactions of the Massachusetts Agricultural Societies for 1853, says: “To destroy the worms the vines were kept under water from spring to the first of July.” This destroyed all the worms. When the water was taken off the vines grew vigorously, forming the buds for the (succeeding) year, and a handsome crop was the result.

Mr. Flint, of North Reading, says: flow from October to May, or until vegetation starts, then lower it down to the top of the vines, and keep it on them thus until the spring frosts are over, then let the vines fairly out of water till the vines are grown, say middle of August, then draw it off for ripening and milking.

Cranberries are raised on moist upland, sandy loams, but wet boggy land where you can lay the water on and off at your pleasure, is the best chance for them.—*Maine Farmer*.

The Potato Disease.

After a series of lengthened investigations upon this subject by several members of the British Meteorological Soc'y, the following conclusions were arrived at:

That the vital energy of the potato is unimpaired, and that it never becomes diseased until the stage of flowering, which is about one hundred days, or about three months, from the time of planting; that the causes are simultaneous in their action over a large tract of country, and at greater distance and are peculiar to the soil and air. The conditions of the former are too rich and too much manure, too poor soils, and such as are moist and clayey; and on the latter barometrical and thermal states and hygrometrical condition, with southern directions of the wind and atmospheric zone. That the object of the agriculturist ought to be the proper cultivation of the soil, and endeavor, to economise the vital power of the plant at the time of flowering; and the removal of the flower before the formation of the seed would seem to contribute to this end.

Action and Re-action in Farming.

Never keep animals on short allowance—if you starve them, they will surely starve you.

Although in draining land thoroughly your purse may be drained, yet the full crops that follow will soon fill it again.

Always give the soil the first meal. If this is well fed with manure, it will feed all else! plants, animals and men.

Heavy carrot crops for cattle, will soon return carats of gold.

Fences operate in two ways—if good they are a fence, if poor an offence.

Many a farmer, by too sparingly seeding his meadows, has had to seed his whole farm.

Every farmer should see daily every animal he has, and inspect its condition. Weekly visits, as is the case with some, soon result in weakly animals.

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WEST CHESTER, SEPTEMBER, 1854.

NUMBER 9

Farmers' High School of Pennsylvania.

[We ask the attention of the farmers of Pennsylvania to the following proceedings of the Board of Trustees of the Farmers' High School of Pennsylvania, and the address of the Committee.]

MEETING OF THE TRUSTEES.—In pursuance of the Act of Incorporation a few of the persons designated by the act as Trustees, met at Harrisburg on the 13th of June, 1854, for the purpose of considering its provisions. The members present did not constitute a quorum of the Board. The Hon. GEO. W. WOODWARD presented the following resolution which was agreed to:—

Resolved, That **FREDERICK WATTS, JAMES GOWEN** and **JOHN STROHM** be a committee whose duty it shall be to report to the next meeting of the Board of Trustees a plan of organization for the Farm School of Pennsylvania, with such modifications of the Charter and such Legislative appropriations as may be deemed advisable to apply for next winter.

The Board then adjourned to meet at Harrisburg, in the room of the State Society, on Thursday, the 13th of July, at 2 o'clock, P. M., of which meeting it was directed that each member of the Board should have personal notice.

ADJOURNED MEETING.—Thursday, the 13th of July, 1854. There were present, Messrs. **WATTS, of Cumberland, MUMMA and RUTHERFORD, of Danphin, McLLVAINE, of Chesier, BOAL, of Centre, and BAXTER, of Philadelphia;** there being no other member of the committee appointed at the last meeting present but the Chairman, he submitted the following **REPORT**:—

The Committee to whom was referred the subject of the organization of the "FARMERS' HIGH SCHOOL OF PENNSYLVANIA," are of opinion that no good would result from any effort to organize under the existing law. It is radically defective in two particulars:—First, in providing for a Board of Trustees composed of fifty or sixty members, many of whom are subject to constant removal by events having no reference to the interests of the institution, and living at so great a distance from any point that there could be no hope of getting them together to act at any time. Inasmuch as any service to be rendered by a Trustee must be wholly gratuitous, it cannot be expected that individuals will make sacrifices so great as the provisions of this bill demand. The Board should not consist of more than thirteen members, of whom the Governor, Secretary of the Commonwealth, Attorney General and President of the State Agricultural Society should be members *ex-officio*. Nine should be named in the bill. The term of service of three of these should expire at the end of each year, whose place may be supplied by the election of three others, by the Executive Committee of the State Society. This Executive Committee is composed of the officers of the Society, who by its charter are elected by the members and taken from each congressional

district, thus covering the whole ground and all local interests of the State. We know not where the responsibility of such election may be more safely reposed.

But the bill is defective because it makes no appropriation in aid of the project. There are many public spirited men in the State who believe that the establishment of a School where boys may be educated for Farmers is of more importance than any design which could occupy public attention. It is a fact universally known that the literary institutions of the country, as at present constituted, educate young men to a state of total unfitness, not only for the pursuits of a farmer but as a companion for his parents, brothers and sisters, with whom he is expected to spend his life. He is, therefore, driven from them—from his father's estate—and into a profession for which he has perhaps little capacity, and where he is subjected to all the temptations of an idle life. Whereas the Farm School proposes to impart an education which is appropriate to a Farmer, which educates his body to the art as well as his mind to the science of farming, and which will have the feature of making the Institution so nearly self-sustaining as to bring education, in point of expense, within the reach of every man who desires to make his son an educated Farmer.

It is within the scope of our duty to make plain, through the medium of figures, a plan for the attainment of this object:

A Farm of 300 acres at \$60 would cost,.....	\$18 000
Additional buildings,.....	10 000
Stock and Implements,.....	5 000
Furniture, Books, Instruments,.....	6 000
Contingencies,.....	1 000
	<hr/>
	\$40 000

Let the State appropriate, in annual instal-	
ments of \$4,000,.....	\$20 000
Appropriation of State Society,.....	10 000
Mortgage Loan,.....	10 000
	<hr/>
	\$40 000

To support the School will cost:	
Salary of Principal,.....	\$2 500
Two other Professors,.....	3 000
One other Professor,.....	1 200
To sustain the Institution annually,.....	10 000
	<hr/>
	\$16 700

Annual appropriation of State Society,.....	\$5 000
200 Pupils at \$75 each,.....	15 000
Produce of Farm,.....	4 000
	<hr/>
	\$24 000
Surplus,.....	\$ 7 300

It cannot be doubted that if an opportunity be offered to the Farmers of the State by which their sons may be well instructed in all the elements which compose a good English education, embracing Mathematics, Chemistry, Botany, Mineralogy, and all these kindred natural sciences, the study of which can alone make a perfect farmer, they would be glad to avail themselves of it, when the entire expense shall not exceed seventy-five dollars a year. While the youth is being instructed in all those branches of science which at all pertain to agriculture, and his mind is being enlarged to greater capacity for thought, he will be engaged in the actual business of the farm; so that when he returns to his family and home, it is but to continue his daily occupation, and with a zest which knowledge always imparts to labor. His attention will not be turned to those professional pursuits in which so few attain that degree of eminence which gives them even respectability of standing, and in which so many sink into utter worthlessness and even degradation.

To call a young graduate from the unmingled literary pursuits of a College and its concomitant associations to the every day occupations of a farmer, of which he knows nothing, and to a society which he cannot appreciate, is a draft upon his endurance well calculated to excite disgust. But give him a knowledge of the reasons which Nature's God has assigned for all those things in which he is engaged: let him understand the mechanism of the implement he uses, permit him to exercise the dictates of his own educated mind amongst his associates and others to whom it will be his pleasure and pride to impart his information, and this, too, with hands accustomed to labor, and you will ever after find him pursuing the happy occupation of a farmer, with profit to himself, great advantage to his neighbors, and a consequent benefit to the interests of the State.

If the Legislature at its next session will sanction this enterprise, by amending the bill, and making such an appropriation as is here suggested, we have the most entire confidence in the ultimate success of the work, and that there will be more applicants for admission to such an Institution than should be brought together at one point, and that this will be followed by others to be located at different points in the State. All of which is respectfully submitted.

FREDERICK WATTS, Chairman.

This report having been read, and there not being a quorum present legally competent to transact business, Mr. McIlvaine, of Chester, offered the following resolution, which was agreed to:

Resolved, That the report just read be referred to Frederick Watts, Geo. W. Woodward and A. L. Elwyn, whose duty it shall be to address the people of the State on the subject, and ask the next Legislature to amend the Bill as indicated in the report, and that said committee make all necessary inquiries where the Farmers' High School of Pennsylvania may be most advantageously located, and that they invite propositions from all parts of the State for its location.

ADDRESS TO THE PEOPLE OF PENNSYLVANIA:—We refer you to the foregoing proceedings for the subject upon which we address you; and we can offer little else to explain the object in view. There is no business in life which can derive more aid from the light of knowledge than the pursuit of agriculture. There is no business which can conduce so much to human happiness as this—there is no business in which there are so many persons employed—all others in the aggregate do not make so many—and yet it is a fact that there is no school in our State adapted to educate a farmer. It may be truly said that the Farmers of Pennsylvania have never derived any advantage from the large appropriations

which have been made by the Legislature to the several Colleges of the State. The price of an education at those Institutions has always been beyond their means, and the quality of it, when obtained, has added comparatively little to benefit them. What we now propose is to establish a school where practical farming, and all the knowledge which pertains to a right understanding of that subject shall be taught, and that the product of the labor of the pupil shall be appropriated to his education and maintenance, to such an extent as to bring the price of learning within the reach of those whose business and habits require the study of economy. How many are there who, knowing the value of an education, feel desirous that their sons should have its benefit, and yet look around in vain for an Institution whose teachings are so practical as to prepare youth for the pursuit of Agriculture? How many, too, fear the dissipation of a town—the temptations of a period alone devoted to study—the conviction that the son will be educated in mind and habituated in body to a state of entire unfitness for practical and active life? If this want is to be supplied, it behoves those who are interested in Agricultural pursuits every where, to interest themselves in the establishment of a "Farmers' High School." Individuals, who have no feelings to gratify, and no interests to subserve, beyond the mere desire to do good, are willing to devote their time and their money to the organization of such an Institution. They, too, propose to appropriate a much larger sum than that asked of the State, and the question is submitted to the reflection of the people, whether they will not take an interest in a project which so much concerns them, and urge upon their Representatives the importance of the measure.

With a determined purpose that this design, which promises such important results, shall not fail for want of an effort, and anticipating the favorable action of the Legislature at its next session, we have been instructed to examine into the subject of where the "Farmers' High School" shall be located. It is very certain that its location will confer great advantages on the community around it. The example which it will afford—the knowledge it will impart—the expenditure it will annually make—are matters worthy of consideration, and will probably induce individual exertion to have it located at different points in the State. We are instructed to solicit and receive propositions on this point, to be submitted to the Board of Trustees as soon as the Institution shall have been organized. Any communications on this subject, addressed to either member of the Committee, will receive a right direction.

FREDERICK WATTS,
GEO. W. WOODWARD,
A. L. ELWYN,

Committee.

July 21, 1854.

For the Farm Journal.

European Agriculture—No. 9.

Natural Compounds of Lime—The Best Method of Using it—The Source of its Beneficial Effects, &c.

In concluding the subject of lime, and the incidental remarks that its consideration has suggested, we will glance at the most important compounds of it with other substances. They are as found in nature:

1. Common limestone—lime and carbonic acid.
2. Plaster of Paris—lime and oil of vitriol.
3. Apatite—lime and phosphoric acid.
4. Bones, shells, &c., or common phosphate of lime, the same as the last.
5. Silicate of lime—lime and silicic acid (sand).
6. Nitrate of lime—lime and nitric acid.

It is also found in combination with arsenic, boracic, ti-

tanic and tungstic acids, and its artificially prepared compounds with acids, which are known to chemists, are reckoned by hundreds, but the above six are sufficient for our consideration. The first is most abundant; the third and fourth the most valuable to the farmer as affording phosphoric acid to the wheat crops, &c.; the sixth is very rare in nature but is easily prepared artificially, it is the most soluble compound in the list, and on this account has been recommended as a source of lime to plants, but this is a matter of little importance since any of the compounds are soluble enough to let the most of plants, if not all of them, have the small per centage required by them. So far as the wants of the plant for lime are concerned, there is no better source than the usual method of applying caustic lime.

If the above six compounds be heated to redness, they will give quite different results; the first and sixth will be decomposed, the first giving off carbonic acid gas and the sixth giving off nitric acid, and both leaving in the kiln pure lime; the second, third, fourth and fifth will not give off their acids by heating; the second is somewhat soluble in water (one part soluble in 500 of water), and may, therefore, enter the plant in combination with its acid as it does when used in top-dressing, &c. Thus applied it also supplies sulphuric acid to the plant, which is essential to its growth. The third and fourth are to the farmer the most valuable, as presenting a source of phosphoric acid, which is one of the most important compounds in the inorganic part of plants, no plant ever being found without it; but this compound of phosphoric acid is so very insoluble that it must enter the plant exceedingly slowly, yet even in this insoluble state it is not so worthless as some chemists, who considering its solubility in pure water, have supposed. Almost every one who has any experience in practical farming knows that ground bones, insoluble as they are, are of great use to crops; but what is much better is a compound of phosphoric acid and less lime. By removing one-third or two-thirds, or all the lime from the phosphate of lime, we get a substance quite soluble. This removal is accomplished by dissolving bones, or apatite, in sulphuric acid, a process adopted by those who make artificial "superphosphates," "biphosphates," &c. The lime which was previously in combination with the phosphoric acid, will be found in union with the sulphuric acid, forming a substance identical with the second, and this latter substance must, as a necessary result of the method of its formation, be found in mechanical mixture with the aforesaid so called superphosphate. The silicate of lime (5) is of little importance to the agriculturist; it exists abundantly in nature in very insoluble combinations.

Certain kinds of lime, when heated too hot in burning, become "dead burned." This is due to the presence of fine sand (silica) being disseminated through the mass, and when it is heated to the melting point of this mixture of lime and silica, they enter into chemical union (being only mechanically mixed before), forming insoluble silicate of lime.

No heat has ever been obtained capable of producing an insoluble state in pure lime. Lime may also have so much sand in it, and this so coarse that it will not be possible to get it hot enough to produce this dead burnt lime. There are examples of both kinds in Chester county.

The analysis given in the last article shows how very insignificant is lime as a constituent of plant ashes, or as a direct source of nutrition in the vegetable kingdom; but as an indirect agent it plays a more considerable part. If it did not the practice of liming with 50, 60 or 70 bushels to the acre to get the six or eight pounds of lime that a hundred bushels of grain require would be folly. The great source of benefit derived from its use is due:

1st. To its mechanical effect on the soil, rendering it more light and loamy.

2d. To its saturating acids formed in the process of vegetable decomposition, and which for a time arrests the activity of this decomposition, and renders the ground cold, wet, heavy and sour.

3d. It decomposes certain poisonous sulphates, as the sulphate of iron (green vitriol), or prevents their formation. This is often the case on such black unproductive soils as we find in serpentine localities. The black soil is due to black oxide of iron and its compounds. By the influence of this and that noticed above (3), it often eradicates noxious weeds that flourished on the compounds it destroys.

4th. It assists in decomposing the insoluble constituents of the soil, and allowing the potash and soda of the decomposed mass to enter the vegetable.

5th. It is destructive to certain insects that destroy the vegetables.

Lime also produces effects the very reverse of the preceding, and can be used for benefit or injury, according to the time and circumstances of its application. When applied unslacked, particularly in dry weather, it decomposes the ammonical compounds in the soil, and lets the ammonia go free into the air. If mixed with manures it produces the same effect.

Many people, who are high authority, think that the only advantage gained by burning limestone over that of using the ground unburnt stone is, that in the former case by slacking we get the lime more finely divided than is possible by grinding. When it is burned and finely divided in spreading, it will go back to limestone in a few days only; the middle of small lumps not entering into combination with carbonic acid.

To avoid the evils and gain the greatest good from the use of lime, it should be slacked as soon as possible after it is burned (not allowed to fall), and, were it not impracticable, in sufficient water to nearly cover it during the operation, that it may all come in contact with water and slack, and fall into the fine pulverent state before it meets the carbonic acid of the air, and takes on the insoluble form of carbonate. It should be used on the top of plowed ground, where it would not come in contact with the ammonical compounds of the vegetable decomposition taking place in the sod, or weeds, that were plowed under. If put upon the sod without plowing, as many farmers do who raise more cattle than grain, it should be put on in winter, or while the ground is wet and cold in the spring, as it would not be as destructive to the ammonical compounds. But using it without plowing does not seem as safe as the mode just described of using it on plowed ground. It should not at any time be mixed with guano or other manures rich in ammonia—such an act would be madness. It should not be put on land at the same time, or as a simultaneous coat with any kind of vegetable manure.

Sulphate of lime (plaster of Paris) should be used in all the combinations containing ammonia, in the barnyard, in guano, &c. Every farmer should have a box full of plaster in the entry, and sow it over the yard and stables almost as often he litters the latter.

Some limes have the peculiarity of "deadening the earth" under a large heap which has lain for some months in a place before spreading, and even sometimes when put out in bushel heaps, each heap after laying a short time leaves the marks of vegetable death behind it. This is due to caustic magnesia in the soil, and this goes back to carbonate very slowly, so that an "old lime heap bottom" may be years recovering its native vigor. A little of the superphosphate of lime, saltpetre, or any acid substance, perhaps a small cart

load of sour swamp muck, would remedy the fault on a large lime heap. Putting on very heavy doses of lime, as 60, 70, or even 50 bushels to the acre undoubtedly subject it to a greater proportional base, both from washing away and its actions upon the ammonical compounds of the soil, and unless the difference between putting on 60 bushels at two different coats and putting it on at one coat will compensate the loss, it would be best put on in smaller doses. In order to decide such questions as these the farmer should be familiar with the theory of the action of lime, and ever be ready to reckon in his own mind how far circumstances will justify him in following out the theory.

Without much difficulty in observing facts, we could establish the correct theory that plants require water to promote their growth. An inference would be, that in a dry time the farmer should carry water to his fields and water his growing grain. But he will readily answer that such an inference suggests a thing not practicable. This may be granted, still it does not invalidate the theory nor disprove the assertion, that a knowledge of it should be a part of the farmer's education. If he have a very important plant, it will enable him to suggest that it should be watered. If he have a race or ditch running around a meadow, the theory will suggest that it be opened to let the water flow out upon the meadow. This may seem like a very simple case for illustrating the advantages of knowing correct theories, but there are thousands of cases, in which a knowledge of the theory of the action of the agents that fall within the scope of the farmer's avocation, would afford him vast service had he a knowledge of them. He might find cases in which they would not be practical, but he would not ignorantly trample on the inference drawn from the theory, and he would ever be prepared to avail himself of their advantages. Those who study theories of agriculture, and make suggestions from them, sometimes make many that the farmer will recognise at first sight as impracticable, and he may be disposed to doubt the truth of all the author may say, because of this impracticable suggestion—at least he will conclude that such knowledge is of no use to him. But, as in the case of watering plants, the theory may be correct, and the knowledge of it of essential importance to enable the agriculturalist to avail himself of it when it is possible to do so. But to conclude, we have taken a glimpse at the history of lime for the last one thousand years, have considered its most important properties that interest the farmer, its relation to the vegetable kingdom in comparison with other substances, and finally its natural compounds and the mode of applying them. Thus imperfectly glanced over we close the subject.

E. P.

For the Farm Journal.

Atkins' Automaton Self-Raker, Reaper and Mower.

MR. EDITOR:—In the July number of the *Journal* you request information in regard to the different kinds of mowing and reaping machines in use the present season, in order that your readers may be enabled to form a proper estimate of the value of each. With so many rival candidates for public favor in the field, it is rather dangerous to assert the superiority of any one machine over the others, and yet I cannot withhold my decided preference for the machine the name of which heads this article. And in yielding to this preference, I wish to be understood as entirely free from prejudice, my opinion being based upon actual experiment with this and observations of several others now before the public.

An all important feature in Atkins' reaper and raker is the workmanship upon it. Involving as it does some of the most beautiful movements in machinery, the parts are nev-

ertheless so accurately fitted, that when once put together nothing short of absolute carelessness or design can put them out of order. Another advantage gained by this excellent style of finish is superior lightness of draught, and still another, the ease with which even inexperienced persons may put it up and operate it. The reaping parts are as simple as those of any other machine, and are of the most durable character, while the raker is so very simple and strong, that it appears almost impossible for it to get out of order.

The driver's seat being considerably elevated it gives him a complete view of the operation of the knife, reel and raker, while the arrangement for throwing it out of gear is within reach, enabling him to perform that operation, when necessary, in an instant and without leaving his seat. The front wheels relieve the team of the weight of the machine, as well as the side draft, so objectionable in nearly all other reapers. Besides these advantages every part of the frame work is strong and remarkably well braced and strengthened with iron where necessary. The difference in the style in which it is built is well worth the difference in the price between it and a number of other machines I could name.

The arrangement by which the knife is operated is most excellent, and the advantages are seen in the precision with which it works, and its little liability to get out of repair. I have not heard of a single instance in which any repairs were needed for the knife, or of the gearing which drives it. The pitman is of wood instead of iron, and the rapid movement of the crank being regulated by a good sized balance wheel, the great noise and rapid wear and tear of these parts in other machines are in a great degree obviated in this one.

But apart from all other advantages which it possesses, there is one which must eventually place it in the front rank of reapers, and which destines it to take the lead of all others now in use. I mean the *self-raking apparatus*. Not being well versed in mechanics, a description of this truly admirable invention is beyond my powers; but although unable to describe the arrangement of its parts, I have seen enough of its practical operations to satisfy me that it is the only raker ever invented that will take the grain from the platform of a reaper as it should be done. It is impossible to convey by mere description any satisfactory idea of its *modus operandi*. It is entirely *sui generis*, and must be seen to be appreciated.

I have seen it work with complete success in grain of the lightest, as well as of the heaviest kinds, standing and fallen, operated by a small boy, and drawn with entire ease by two small horses. No man can possibly deliver the gavels or grips from any other machine as regularly or as well as it is done by this one, nor can the binding be done so easily after raking done by hand. It has been objected to by some, because it does not make the gavels of the same size in all kinds of grain. Admit it. The raker is designed to make a fair sized sheaf in good grain. By good grain, I mean grain of the average quantity on good land. If the grain is light, it is easier and speedier to double the gavels than it would be to rake the same distance after a cradler; and just as easy as to gather up the scattered gavels as delivered from the generality of other reapers. Besides, the gavels are deposited in better style, from the fact that the raker holds them with such force against the iron apron while turning around to deliver its load, that the tangled straw is generally laid nearly straight.

But let us admit that it rakes only as well as it can be done by hand, and still its advantages are great. On McCormick's machine one hand only is necessary to rake off, but

all who have ever tried it must agree that more arduous work can scarcely be found in any department of farming. On Hussey's reaper, where the side delivery is used, two men are required to rake off the grain. Where the side delivery is not used, the gavels must be bound up immediately, as the horses and machine would trample and scatter them in the next round if not removed. Now as I have already mentioned, in all ordinary cases, a boy who can drive a pair of steady horses can operate Atkins' machine. It requires no outside help, and once put properly in operation a whole field may be cut and raked with this small force. Here then, in one case, the expense of one hand is saved, and in the other two, and where the binding has to be done immediately after cutting (as in the case of Hussey's and Burral's reaper, when not furnished with side delivery,) the gain is at least equal to four hands. By dispensing with such a number of hands, the difference in the price between it and other reapers is soon made up to the purchaser.

AN OLD CRADLER.

Philadelphia county, August, 1854.

For the Farm Journal.

Plowing Match at the State Fair.

MESSRS. EDITORS:—In looking over the schedule of premiums offered by the State Agricultural Society, my attention was particularly directed to that portion of it which relates to plowing. I observed that a premium of ten dollars was offered for the *best* plow, eight dollars for the second best, &c. Will you have the kindness to enlighten your readers a little upon this point by stating what is to be considered the *best kind of a plow*? Is it a lap furrow or a flat furrow, or a sod plow, or a stubble plow, designed for stiff clay or loose sand? or is it to be a plow which shall combine all the above mentioned qualifications? It occurs to me that I have heard very good farmers say that a particular plow was very good for stubble, but would not answer for sod; and others remark that a plow which did good work on stiff soil, was good for nothing on loose sandy or loamy soils, and *vice versa*.

It may be contended that there is a plow, which is better than any other in use for *general* purposes; but this is not the object sought for at plowing matches. The real object is to ascertain the peculiar merits of each plow entered for competition, whether it be a lap or a flat furrow, a stubble or sod, a stiff or loose soil plow. The distinctive characteristic of each plow should be clearly stated at the time it is entered, and its qualities in that respect fully tested.

A few days since, in conversation with one of the most successful and extensive plow makers in the United States, I endeavored to prevail upon him to send some, or one at least, of his excellent plows to compete at our State plowing match. "What kind of a plow will you have? What is the character of your soil, and how do the committee desire the plowing done?" was his reply. I, of course, was as ignorant as himself of the views of the committee. Will not the committee, whoever they may be, see that this error is repaired? If they do not the coming plowing match will be precisely as all others which have preceded it, both in our own State and elsewhere—a humbug.

Relying upon the judgment of the excellent men who may be chosen umpires on the occasion, I may feel inclined to purchase the plow which they pronounce the *best*; but will it not weaken my confidence in their judgment, as well as in all such trials, if on testing it on my farm (the soil of which differs materially from that in which the committee tried it) I find that it will not answer my purposes at all? No, let us for this once at least have a thorough plowing match, conducted upon principles that will reflect credit upon all

concerned in it. Let us have a premium for the best lap furrow, one for the best flat furrow, one for the best sod and one for the best stubble plow, &c., and then when farmers desire to purchase a plow suited to their particular soils, they will know which kind to select. Yours,

August, 1854.

BILLY PLOWBOY.

For the Farm Journal.

Bucks County Trial of Reapers and Mowers.

The trial of Mowers and Reapers, under the direction of a Committee of the Bucks County Agricultural Society, with whom the matter was entrusted, took place according to announcement on the farm of Wm. Stavelly, in Solebury, on the 4th inst. The day was oppressively warm (the thermometer rising to 94° in the shade), but was otherwise propitious, and a very large number of persons assembled, mostly farmers, to witness the experiment. It was estimated that upwards of 2000 persons were on the ground—an unmistakable evidence of the prevailing interest that abounds in regard to labor-saving machinery, that is adapted to the cutting of grass and grain with ease and expedition.

The mowing was done in the forenoon on a portion of reclaimed meadow and upland—one part being timothy, some of which was fallen down, but not badly, and the other was a mixture of rye and other grasses. The ground selected for the operation was as favorable as could be wished for, generally smooth, but rough enough in places to show the capability of the machines in working upon an uneven surface.

The exhibition of machines was "uniform and various;" but, as will be seen, all the different kinds were far from being represented. It would have been gratifying on this occasion to have witnessed on trial some that were not present, which have been favorably spoken of, and "got their name up" a little, to see how their working would have compared with those here entered, which were as follows:

Manny's Mower and Reaper, improved, of 1851, by A. Cornell, of Northampton.

Manny's Mower and Reaper, improved, of 1853, by the same.

Manny's Mower and Reaper, improved, by Good & Gillingham, of Solebury and Buckingham.

McCormick's Mower and Reaper, by R. T. Elkinton, of Philadelphia.

Rugg's Mower and Reaper, by W. & C. Crook, of New Hope.

Allen's Mower, by George Goslin, of Newportville.

Allen's Mower, by C. B. Rogers, of Philadelphia.

Hallenback's Mower, with sickle-edged cutters, by A. Blaker, of Newtown.

Hallenback's Mower, with smooth-edged cutters, by the same.

Wilson & Moore's Mower (unpatented), by Wilson & Moore, the inventors, of Yardleyville.

Bean's Mower (unpatented), by C. Hampton, of Warminster.

Each mowing machine had a section of grass measured off and allotted to it, and between 10 and 11 o'clock they all commenced operations but the latter one, which did not arrive until an hour after.

Wilson & Moore's machine cut but two swaths, one round, when unfortunately a hard piece of wood came in contact with and was drawn into it, which materially affected its operation; and as it could not be properly repaired at the time, the further trial of it had to be suspended—a matter very much to be regretted, as there was nothing on the ground which performed the work better than this. This is altogether a new machine, and very simple in its arrange-

ment—got up by the inventors at Yardleyville, in our county, and being the first one made, it must be acknowledged worked admirably well. With a little more fixing, it promises to be a No. 1 machine in the catalogue of mowers.

Bean's Mower is also something new—just come out; but not being on the ground in time, no opportunity was afforded for seeing much about it. It is said to work well by the one who tried it.

Hallenback's mowing machine is probably the simplest of them all in its construction, and none present seemed to work more easily, doing it well, but cutting a swath somewhat narrower than the others.

Rugg's mower and reaper is entirely different from the others in its mechanical construction, except in the cutting apparatus, which is somewhat similar in them all. The side draught, a seeming objection appertaining to the others, in this is wholly avoided, the horses walking behind it and propelling it forward—moving in a direct line with it, and walking upon the swath that is cut down before them, which is six feet wide, considerably wider than any of the rest mentioned. The driver guides the machine by a rudder-like wheel attached to and immediately under the seat on which he sits. Inasmuch as it performs more work in its operation, so it necessarily seems to require more power to move it. It performed in a creditable manner.

The several portions cut by Manny's, Allen's, and McCormick's machines, were done in a workmanlike manner. They all seemed to get along very well, and it would take a very nice discrimination to perceive any great difference in their performance. That the whole of the mowing was done up in a style fully equal to expectation there is but little doubt. As some ulterior evidence of it, the worthy proprietor of the premises writes: "Sixteen large loads of hay were hauled from the ground mowed, and when raked off the surface looked beautiful."

The committee had not an opportunity of witnessing and examining every part of the work performed, nor every movement of the several machines; their attention could not be devoted to it thoroughly and minutely, consequently they are not sufficiently booked up on the subject to be able to speak thereof as they would like: neither are they fully prepared to judge and decide of the particular merits and superiority which one machine possessed over another that was presented on trial. They saw enough, however, to satisfy them of the practicability and utility of mowing machines (as well as reaping), and from what was exhibited concluded to make the following awards:

To Alfred Blaker, of Newtown, for Hallenback's Mower, \$10.

To W. & C. Crook, of New Hope, for Rugg's, \$10.

To George Goslin, of Newportville, for Allen's, \$10.

To R. T. Elkinton, of Philadelphia, for McCormick's, \$10.

Bean's Mower not arriving in time, according to the published regulations, could not come in for a premium. Wilson & Moore's mower giving out, as heretofore mentioned, debarred it from the same privilege.

The reaping was done in the afternoon, in a field of well-grown wheat, which stood up remarkably well for the season, and was estimated to make at least thirty bushels per acre. This was also laid off in sections for each of the following machines, which were entered and competed for the premiums:

McCormick's Reaper, of 1851, by Oliver Balderston, of Solebury.

McCormick's Mower and Reaper, of 1854, by R. T. Elkinton, of Philadelphia.

Rugg's Mower and Reaper, by W. & C. Crook, of New Hope.

Manny's Mower and Reaper, of 1851, by A. Cornell, of Northampton.

Manny's Mower and Reaper, of 1853, by the same.

Manny's Mower and Reaper, by Good & Gillingham, of Solebury and Buckingham.

The several reaping machines commenced operations about three o'clock; they all cut the grain as well as if done with a scythe and cradle—some of them better—and with ease and expedition, and in some of the swaths which were done the best not a stalk was left unsevered. But there was more difference in the operation of putting off the grain from the platform into suitable bunches for binding. The machine itself, from the manner of its arrangement, may have more or less to do with this, but take them as they are, it evidently requires the greatest skill and dexterity of the person managing this part of the business to do it in a workmanlike manner. Here is where the greatest difficulty seems to be, and perfection is hardly attainable by manual efforts. An additional apparatus seems to be required to make the thing complete—it is that of a self-raker, which is understood to be already invented, and applied with admirable success.

After witnessing the performance of the several machines (but they were not sufficiently tested in down, tangled and whirled about grain), there was no hesitation in giving the preference to McCormick's Reaper, of 1851, entered by Oliver Balderston, and accordingly awarded him the full premium of twenty dollars. And for the best Mower and Reaper combined, a like premium of twenty dollars was awarded to Adrian Cornell, of Northampton, as the one used by him, being Manny's, of 1851, was considered to be the best one on trial.

In closing this hasty and imperfect account, it will not be unappropriate to make honorable mention of the liberality, kindness and public spirit of the fortunate possessor of the beautiful and productive farm on which the exhibition was held, in so generously offering it for the occasion, while at the same time the hospitalities of his house were extended to strangers present, to the committees and others—a large number of whom availed themselves of the boon that was offered. Such a laudable act of beneficence on the part of one who holds a prominent position among the farmers of our county, who has so truly dignified his profession, will be appreciated and gratefully acknowledged.

THOMAS WARNER.

Wrightstown, Bucks county, 8th month, 1854.

A Scale of Premiums,

Offered by the United States Agricultural Society for the National Cattle Show, to be held October 25th, 26th and 27th in Springfield, Ohio.

SWEEPSTAKE PREMIUMS.

Best Bull and five Cows or Heifers of 1 year or upwards, from any one one State, - - - \$500

DURHAM BULLS.

Best 3 year old and upwards,	- - - -	300
Second best 3 year old and upwards,	- - - -	200
Third best 3 year old and upwards,	- - - -	100
Best 2 year old and under 2 years,	- - - -	200
Second best 2 year old and under 3 years,	- - - -	150
Third best 2 year old and under 3 years,	- - - -	75
Best 1 year old and under 2 years,	- - - -	150
Second best 1 year old and under 2 years,	- - - -	100
Third best 1 year old and under 2 years,	- - - -	50
Best Durham bull calf,	- - - -	50

DURHAM COWS.

Best 3 year old and upwards,	- - - -	200
Second best do do	- - - -	150

Third best do do - - - -	100
Best 2 year old and under 3 years, - - - -	150
Second best do do do - - - -	100
Third best do do do - - - -	50
Best 1 year old and under 2 years, - - - -	100
Second best do do do - - - -	75
Third best do do do - - - -	50
Best Heifer Calf, - - - -	50

AYRSHIRE BULLS.

Best 3 year old and upwards, - - - -	100
Second best do do - - - -	75
Best 2 year old and under 3 years, - - - -	80
Second best do do do - - - -	60
Best 1 year old and under 2 years, - - - -	75
Second best do do do - - - -	50

AYRSHIRE COWS.

Best 3 year old and upwards, - - - -	100
Second best do do - - - -	75
Best 2 year old and under 3 years, - - - -	75
Second best do do do - - - -	50
Best 1 year old and under 2 years, - - - -	60
Second best do do do - - - -	50

DEVONSHIRE BULLS.

Best 3 year old and upwards, - - - -	100
Second best do do - - - -	78
Best 2 year old and under 3 years, - - - -	80
Second best do do do - - - -	60
Best 1 year old and under 2 years, - - - -	55
Second best do do do - - - -	50

DEVONSHIRE COWS.

Best 3 year old and upwards, - - - -	100
Second best do do - - - -	75
Best 2 year old and under 3 years, - - - -	75
Second best do do do - - - -	50
Best 1 year old and under 2 years, - - - -	60
Second best do do do - - - -	50

HEREFORD BULLS.

Best 3 year old and upwards, - - - -	100
Second best do do - - - -	75
Best 2 year old and under 3 years, - - - -	80
Second best do do do - - - -	60
Best 1 year old and under 2 years, - - - -	75
Second best do do do - - - -	50

HEREFORD COWS.

Best 3 year old and upwards, - - - -	100
Second best do do - - - -	75
Best 2 year old and under 3 years, - - - -	75
Second best do do do - - - -	50
Best 1 year old and under 2 years, - - - -	60
Second best do do do - - - -	50
Best single yoke of oxen, - - - -	50
Best fat Bullock, - - - -	50
Best fat Cow, - - - -	50
Best Mile Cow, - - - -	50
Best Steer, - - - -	50
Best 5 yoke oxen from one State, - - - -	150

The Guano Trade and its Horrors.

Frightful accounts are given of the manner in which the guano trade is conducted at the Chineha Islands. The work it is stated is done by contract, and the contractors some time since imported as laborers about 600 Chinamen. They are hired for five years, at the rate of forty-eight dollars per annum, and the New Orleans Picayune states that they commence in the morning as soon as they can see to work. They have five tons of guano to dig and wheel to a distance of over one-eighth of a mile. It is all so hard that it has to be picked up, and if they do not accomplish the tons by five

o'clock, P. M., they are flogged with raw hide whips, some five feet long, receiving one dozen stripes, each of which starts the blood, and then are driven back to finish their work. The guano has a very bad effect on them, swelling their legs and arms, and giving them sores on their legs, feet and arms. Notwithstanding all these, however, if they can get along they are compelled to finish their task. Our informant says he has known as many as thirty flogged in one day. They have no Sunday allowed, with the exception of one in a year, the same work going on upon the Sabbath as during the rest of the week. The consequence of this ill treatment is suicide in various forms, such as leaping from the rocks one hundred feet high, cutting their throats, and burying themselves alive.

Circular of the United States Agricultural Society.

At a meeting of the Executive Committee of the United States Agricultural Society, held in the City of Washington, in February last, it was resolved that the Society would hold no Exhibition in any State having a State Agricultural Society, without the assent of the Officers, or of the Executive Committee of such Society.

The citizens of Springfield, Ohio, having requested this Society to hold an Exhibition of Cattle, at that place, during the current year, and generously subscribed about ten thousand dollars to defray all the expenses of the same, and to guarantee the Society against loss; and the Executive Committee of the Ohio Agricultural Society uniting in the request, the Executive Committee of this Society have concluded to hold a National Show of Cattle, open to general competition, without sectional limit, on the 25th, 26th and 27th days of October next, at Springfield, in the State of Ohio.

The friends of Agriculture in all the States of the American Union, and in the neighboring provinces of Canada, are invited to co-operate with us, so that this Exhibition may be the more extensively useful, and be alike creditable to the generous citizens of Springfield, with whom it originated, to the contributors and visitors who sustain it, and to the United States Agricultural Society, who are so deeply interested in its success.

In consequence of the holding of this Show of Cattle, the contemplated Exhibition of Horses, at Springfield, Mass., and the Show of Sheep, in Vermont, will be omitted.

The Journal of the Society, which the Executive Committee have concluded to issue once in each year—four numbers in one—will appear in January next; and will contain the Transactions of the Society at its last Annual Meeting, the Lectures and Addresses delivered at that time, a full and faithful account of the Springfield Show, with other valuable papers, by eminent members. This volume will be forwarded to all members who have paid their annual assessments for the year 1854.

MARSHALL P. WILDER, Pres't.

WILLIAM S. KING, Sec'y.

Boston, August 1, 1854.

The Third Cattle Importation.

The third importation of Short-Horn cattle and Leicester sheep into Ohio the present season, was here on last Friday, and left on the cars for Warren county on Saturday morning following. It is a joint purchase made by Robert G. Corwin and the Shakers of Lebanon. They

were bred by James Douglass, of Athelstaneford, East Lothian, Scotland, and bought of him. They were shipped on the John Bull at Liverpool, May 29th, and after a voyage of fifty-one days arrived at New York, July 19th. They were brought over by Robert Stewart, an experienced herdsman, in good order.

The following is a list of the names, color, prices, and ages of the Short-Horns:

COWS.			
No 1. "Edith," red and white, cost.....	\$300	4 yrs.	
No 2. "Margaret," red and white, cost	300	3 "	
No 3. "Blanche," white, cost.....	300	2 "	
No 4. "Beatrice," white, cost.....	300	2 "	
No 5. "Violet," roan, cost.....	300	2 "	
No 6. "Scottish Blue Belle," cost.....	1,000	2 "	
No 7. "Marchioness," white, cost.....	425	1 "	
No 8. "Prize Flower," roan, cost.....	225	1 "	
No 9. "Lady Blanche," white, cost.....	200	1 "	

BULLS.			
No 1. "Duke of Southwark," roan, cost.....	300	2 "	
No 2. "Crusader," white, cost.....	1,000	2 "	
No 3. "Duke of Cambridge," red and white,....	300	1 "	
No 4. "Morning Star," roan, cost.....	300	1 "	
No 5. "Economist," roan, cost.....	250	1 "	
No 6. "Hearts of Oak," roan, cost.....	200	5 mo.	

They had in addition a Leicester Ram which cost \$125, and six ewes which cost \$30 each. The entire importation, when landed at their place of destination, will have cost about \$9,000.

Ohio is doing more to-day than any two States in the Union for the improvement of cattle, and the recent importations to Clinton, Clark and Warren, furnish a portion of the evidence of the fact.

The instructions given to Mr. Douglass by our Warren county friends, were to buy the best cattle to be had without regard to price, and so we believe all the Ohio purchases have been made. In view of this fact, the Mark Lane Express says:

"The buying of the best Short-Horned cattle for America, together with the increased value and demand for the best sorts of feeding cattle at home, have of late wonderfully increased the value of really superior animals, and this description are at present worth more money than they have been at any former period, which must have the effect of giving a direction and incentive to breeders of this most interesting and valuable species of cattle to breed from nothing but the very best on either side. These shipments of the best cattle are more likely to increase than diminish, at least for some years to come; and it is not improbable that the result will be that, in the long run, breeders in the parent country will find it necessary, and to their advantage, to select their herd-bulls in the New World."—Ohio Farmer, Cleveland.

For the Farm Journal. Milk Houses.

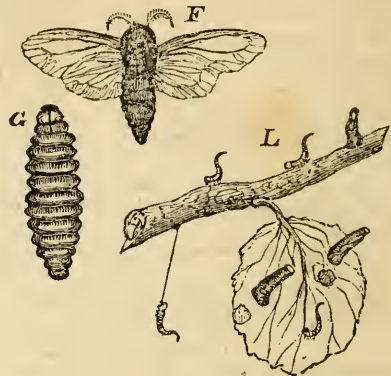
MR. EDITOR:—In your May number there is a communication from Mr. Bennett M. Temple, in answer to a communication which appeared in the March number from a "Subscriber," relative to a "Milk House." As I am rather far from Mr. Temple to pay him a visit to receive any information upon the subject, perhaps he will give a description of his in the columns of your Journal. I did propose conveying the water into a milk house from my well which is about twenty-five feet distant. I have

just put into my well one of Warner's patent iron pumps which appears so far to work very well; it has impregnated the water with the iron, which, although very healthy, is decidedly disagreeable, but I am in hopes that will wear off.

Bellevue, Md.

Yours, respectfully,

WM. C. DIAMOND.



Oiketicus Pensylvanicus.---(Drop Worm.)

The insect which is the subject of the following remarks belongs to a family of sack-bearing *Lepidoptera*, called *Reychada*, which takes its name from *Psyche*, the typical genius of the family, and, together with others of approximating form and habits, constitutes the Linnaean group *Bombyces*, or spinners.

There seems to be much difficulty in determining precisely the proper relations of this moth. In its metamorphosis and its habits it approaches the genus *Psyche*, but the perfect insect is very dissimilar in appearance. The genus *Fumea* is also similar in its habits, but Mr. Guilding, the original discoverer of the genus, has conjectured that it might be more nearly allied to the genus *Zeuzera*. Mr. Westwood considers it as the connecting link between the *Heptaliidæ* (wood-boring moth) and the remaining *Bombycidae*.

Oiketicus,* the generic name given the insect by the Rev. Lausdown Guilding, is from the Greek, and literally means a solitary inmate of one's own house, "*qui habitaculum querere solet*." The trivial name *Pensylvanicus*† is one I propose myself, to distinguish it from other species of the same genus that may be known now, or

*Dr. Harris says that this name should be *Eceticus*, in which, if I knew enough of Greek, I should certainly coincide, for the dictionary interpretation of the former term does not convey to me the idea of Mr. Guilding's translation of it.

†Very recently I saw an article from the pen of Dr. Harris, in the October number of the Albany "Cultivator" for 1853, giving a brief notice of a species of *Oiketicus*, which may possibly be the same that I have been describing, to which he has given the trivial name of *Coniferum*, from the circumstance of its being found on, and being partial to, cone-bearing trees. Of course I am unable to confirm this, for in all my experience I never found but a single specimen on such a tree, (and that was a diminutive foliote that had been vacated,) and my first notice of the insect was in September, 1849 or '50, near this city; but I have an indistinct recollection of having read something about certain pendant foliotes upon trees containing insects, in the vicinity of Philadelphia, at least ten years ago.

that may be discovered hereafter; and also because it appears to have been common in Pennsylvania for many years.

My observations include a period of nearly five years, which in the beginning was attended with difficulties and disappointments, eliciting only very partial results; nor am I assured that even now I shall have discovered any thing new to the experienced naturalist; but after having noted the developments, habits and transformations of nearly one hundred subject specimens, I may be enabled to interest the general reader, add a moiety to his stock of knowledge, and instruct him as to the cause of, and the means to evade, the ravages of a very destructive insect.

When the young "Drop Worm" is first excluded from the egg (the earliest period of which I observed was the 24th, 25th and 26th of May), it is about one-sixteenth of an inch in length (Fig. L.); the head and three anterior segments, and also the pectoral or proper legs, are of a dark, glossy chesnut-brown or nearly black color, the remaining portion of the body is a little lighter, or rather a tawney. They descend by a fine silken cable, in rapid but regular successive order, from the lower end of the suspended follice of the previous season and light upon the branches and foliage immediately beneath, unless they should be blown to one side or the other by the wind; and are very active, using only the front or pectoral legs in locomoting and carrying the abdominal portion of the body erect. Immediately, or in a very brief period, after exclusion, they commence forming a cylindrical covering for the body out of silken tissue, coating it externally with small particles of whatever substance they may come in contact. These coverings in a day or two assume a truncated cone shape, are carried erect, having both ends open (through the upper one of which the excrement is ejected), and may be found distributed along the smaller branches, or upon the upper surface of the leaves of trees; at which time they appear like minute deadened leaf-buds naturally belonging to the tree, but on a closer examination it will be found they have gnawed away a small portion of their epidermis, which has been added as an outer covering to their habitations, perfectly disguising them, but at the same time leaving a trait of the inner bark exposed to view. Those that are not so much given to the spirit of migration, but commence operations upon the leaves where they first drop; their habitations being of the same color as the leaf, they appear not much unlike galls or warts, and were it not that the leaves soon begin to present a punctured aspect their presence might not be noticed. They are the most restless and persevering little animals that have ever come under my observation, for as soon as they see the light of day their instinctive mandate seems to be "scatter and destroy"; and being singularly endowed with the faculty of adapting themselves to surrounding circumstances, they are able to endure much and live on little. As an instance, I may remark that some that hatched in my cabinet descended to the floor and formed coverings out of bits of straw and matting, some gnawed off bits of a blue painted shelf and thus decorated their habitations, whilst others appropriated for the same purpose small particles of lime from a whitewashed wall. In a month after, or

about the 20th of June, their presence and their destructive qualities are quite apparent; and a month later the havoc to foliage is truly menacing, of which they are the concealed cause. It is about the former period just named that their habitations begin to assume a pendant position and spindle shape.

The larvæ of the "Drop Worm," or *Oiketicus*, when matured is about an inch in length (Fig. A.), robust in front, and slightly tapering towards the anal extremity; composed of head and twelve segments, and in color very much the same as when first excluded from the egg, perhaps a shade paler beneath than formerly. The first three segments, together with their legs and head, are hard, glossy and mottled with bluish white. The pectoral legs are each armed with a single claw, and the pro-legs, of which there are ten, like many other Lepidopterous larvæ, are provided with a cornet of small hooks. The head is armed with short robust mandibles, maxilla and palpi, brownish at base, terminated with glossy black; the labrum and the antennæ are mahogany colored, retractile, the latter terminated by a single seta or hair; five ocelli, or eyelets, on each side of the head near the base of the antennæ, arranged three above and two below. A few sparse hairs are distributed over the whole body, but mainly issuing from the trachea, or breathing spiracles, and the anterior and posterior segments. The adult larvæ are by no means remarkable for their activity when divested of their external covering, on the contrary they seem literally like a "fish out of water;" in that respect having retrograded materially since the period of infancy. The adult larvæ of the female is usually much larger than that of the male, being also of a deeper color, and having a ring of brown between each of the three anterior segments.

From the first until the end of August, these larvæ are engaged in securing their sack-like habitations, preparatory to undergoing their medial and final transformations; and here they seem to be gifted in an extraordinary degree with the instinct of self-preservation and perpetuation. The female, in whose *habitaculum* is stored the seeds of the subsequent generations, is careful to fasten it securely to a small healthy and living branch, where it may bear the rigorous exposure of the "wind and weather" of a winter season without injury; and when divested of the rough superficial exterior, which was composed of pieces of shrivelled leaves and leaf-stems, it assumes the shape of two cones united by their bases, or rather a spindle shape, tapering towards the ends, one of which is united by a narrow neck to the branch above. On the other hand, the male is altogether indiscriminate as to a proper situation to move his castle, and as often attaches it to a leaf-stem as any other place: for, as he issues forth from it before the leaves fall in autumn, and as he shall never need it again, it is of no consequence what becomes of it afterwards. Therefore, many of those that remain dangling upon the branches of trees during the winter and spring, especially the larger ones, are those of the females.

After having observed the necessary precaution in securing properly their habitations, the upper ends being now effectually closed; in about thirty-six hours thereafter the larvæ is transformed into a dark brown *chrysalis*, (Fig. C. & G.); the male about five-eighths of an inch in

length, and the female from one to one and a quarter inches. In the pupa of the male, the wings, legs and antennæ of the future insect are visible; the anal segment is terminated by two hooked spines, and upon each of the abdominal segments are transverse rows of dorsal spines and hairs leaning backward and forward. By the aid of these spines, the male pupa is enabled to thrust itself more than half its length from the lower opening of its habitation, in order to effect its final transformation (Fig. F.). There is not least resemblance between the male and female pupa, except in color; the latter (Fig. G.) is much larger than the former, something darker, and appears to be merely a series of transversely united rings or segments, gradually tapering towards each end, exhibiting no outline of wings or other organs, and were it not for the presence of a slight thoracic, dorsal ridge, the question as to which was the anterior or posterior extremity might be involved in serious doubt. At or near the period of final transformation, the head of the pupa is turned towards the lower end of the habitation which is open.

In about four weeks after, and at different periods from the beginning until the end of September, the final transformation takes place; when the male insect comes forth a small mole-colored moth (Fig. F.) from a half to three-quarters of an inch in length, and expanding from seven-eighths to one inch across the wings, thickly covered with rather long downy hair or fur, with an indistinct band slightly tinged around the anterior transverse margin of the thorax. The antennæ are twenty-eight articulate, deeply pectinated, or feathered, on both sides near the base, which gradually diminishes towards the middle, from whence to the apex, which is slightly curved inward, there is only a kind of serration along the anterior or upper margin. The *tarsi* are all pentamerous or five jointed, the hinder or posterior pair dilated and shortened, and, together with the terminal portion of the antennæ and caudal portion of the abdomen, are a very glossy, reddish brown; the *ungues* or claws are black. The eyes are prominent, complex and lusterless black; the mouth, and the usual characteristic appendages thereto belonging, are merely rudimental or entirely obsolete. The wings in a state of repose are deflexed, and do not cover the whole length of the abdomen, which this insect has the most extraordinary power of elongating and contracting at pleasure; the anterior wings are twice as long as the posterior pair, and immediately after being evolved from the chrysalis they are all covered with very dark, nearly black, farina, or minute scales, which are soon lost however, especially from the anterior pair, from the restless and fitful character of the insect when it takes to flight; after which the wings become transparent, leaving only a small portion of it near the base, and a marginal band around the posterior pair, which often reaches no farther forward than the anal angle. At this period the male might easily be taken for an insect belonging to the order *Hymenoptera*, unless closely examined. From the organization of the mouth, or rather from the want of it, it is apparent that the male insect never partakes of food during its natural life in the *Imago* state, which is very brief, from a few hours to a day at the longest, unless some interruption to its natural development and destiny takes place.

The female (Fig. H.) differs so much from the male, whom she is destined never to see, that it would require no ordinary amount of credulity to believe there was any analogy between them, unless convinced of it by personal observation. The perfectly developed female entirely separated from, and disconnected with, the habitaculum and pupa case, is not much unlike the larvæ of some *Hymenopterous* or *Dipterous* species, and might readily be mistaken for them. Unless the ordinary course of the female is disturbed, she never leaves her habitation until she is ready to die, and then with barely life and strength sufficient to draw her attenuated body from it; and this she is not always able to accomplish, in which her shrunken carcase may be found filling the orifice of egress to the no small detriment of the young brood who expect to pass through a few months after. The female *imago* corresponds in size to the female *chrysalis* or *pupa*, and of a yellowish white color, without wings, antennæ, or feet, minute wart-like concretions supplying the place of the latter organs, head very small in proportion to the size of the body, eyes minute and rudimental, ovipositor exerted and prominent, a ring of brownish floss around the terminal abdominal segment, and a small quantity of orange-colored floss along the ventral margin of the antepenultimate segment. The anterior or thoracic segments are also covered with silken tissue or floss of a similar color, which is all rubbed from the body of the female in her passage from the pupa case, and with which the eggs are protected; after which the dorsal or upper portion of the thorax presents a smooth glossy surface of a yellowish brown color. The whole internal cavity of the female is filled with *ova*, which are visible through the external integument, and after having oviposited the space that she formerly occupied in the pupa case is nearly filled with eggs; these are smooth, light yellow or nearly white, nearly as large as white clover seed, and securely packed and interlaced with the floss above alluded to, numbering eight or nine hundred, and even one thousand in some instances, showing the power to increase in a fearful and remarkable degree.

Amongst the many singular characteristics of this insect, the most remarkable is the peculiar manner in which the female is rendered fruitful, or the eggs impregnated. Seeing that she never leaves the pupa case, or the habitaculum, until she is about to die, or quite dead, and that fecundation must take place before that period, I was not a little puzzled how to solve the enigma. But after long, patient and frequent observations upon a number of larger and smaller foliæ that I placed in a case covered with glass, I had the gratification of seeing the males evolve; and, in a restive, impatient manner, search about for something I could not immediately divine, for I was looking for the females also to come forth and pair with the males in the usual way. I, however, was soon relieved from doubt at seeing the males betake themselves instinctively to a follice that contained a pupa of the female, and insert the whole abdomen as far as the wings would permit into the opening below, and there remain in a quiet state, from five to ten minutes, after which they would withdraw themselves, and in from twenty to thirty minutes thereafter die. On opening several of the follices after the sexual union of the male and female, I found the fe-

male with her head down towards the orifice from which the male had just withdrawn himself, haying the thoracic ridge (alluded to above) cleft asunder, and also two lateral clefts of about half the length of the former, but all else was entire. Through these clefts the females were forcing themselves, and had already commenced the work of oviposition. I imagined there might have been some mistake in all this, and therefore I attempted to bring the sexes together in the usual way, but they did not seem to be conscious of each other's presence; and a year after I found that the impregnation had been complete: for, on hanging one of the female habitaculum aforesaid on a quince tree, to make some observations on the young larvæ, I very much jeopardized a crop of quinces and otherwise disfigured the tree. Females that had no connection whatever with the males, would come out without ovipositing, and, after moving about with a maggot-like motion, would make an abortive attempt to do so, and after surviving from two to four days would die.

Here then we have as singular and as wonderful an instance of procreative economy as the most fabled or mythological. A female subject of the animal kingdom completely closed up in her solitary habitation, destined never to behold her suitor for amatory favor, rendered fruitful merely by a contact of spheres, or an overshadowing with a seminal atmosphere by the male, which is accomplished by the unerring leading of his instincts to the habitation occupied by her, and there with the same unflinching guidance accomplishing the end of his probation by "so simple and so chaste an embrace."

Immediately after impregnation no aperture can be discovered in the body of the female, except that through which the eggs are deposited; and as the pupa case is found entire, except the cleft in the dorsal ridge on the thorax, the contact or connection, whatever the nature of it is, must be ultimated there. It is a matter of astonishment that the male should be able to even reach the head of the female, the neck of the habitaculum having considerable length, but this he is enabled to accomplish by the more astonishing facility with which he can elongate his retractile abdomen: therefore, he has only to pat her amatively and cozily on the back, and say, in effect, "be fruitful and multiply," and it suffices.

'Tis a pity that animals having so chaste and classic a germination should develop such stealthy and destructive characters in maturer age. I think with a little protection, these insects might be produced in sufficient numbers to destroy all the foliage in Eastern Pennsylvania in ten years.

At this present writing the insect, whose history I have been attempting to commit to paper, is in the full tide of its devastating career in many places. There is no ostentation in its appearance and presence, all is done under cover. Enconced in a silken habiliment, covered over with shreds of leaves, stems and woody fibre, so disguised as not to be perceived by its natural enemies, it proceeds from branch to branch and leaf to leaf in its silent but untiring work of indiscriminate destruction.

"Drop Worm," the common name that has been obtained for these insects, seems to be very apposite; not only because the adult larvæ are in the habit of dropping

down by a fine cord in changing their location from one branch to another, but also because, even in their state of pristine infancy, they thus drop out of the lower orifice of the old habitaculum, and, in an easy, active, and very knowing way, immediately commence their masticating and building operations, just as if they had recently come out of a regular apprenticeship to the business.

I know of no mode of successfully destroying them without injuring the trees they infest, save by hand as recommended in a former communication. No dependence can be placed upon the "feathered tribes," for alas! their visits are every year becoming fewer and farther between. I am very doubtful, however, if birds could succeed in dislodging them from their well protected castles, if they *should* be fortunate enough to discover their presence: for, they have the singular tact of collapsing the ends with remarkable quickness at the least disturbance, nor can they be forced out of their snug lodgings without in many cases being torn out piece-meal.

The "Drop Worm" was exceedingly numerous in and about Lancaster city during the summer of 1851, and either greatly disfigured or totally destroyed the foliage of some of the most beautiful shade trees. During the summer of 1852 there were comparatively few to be seen in this locality, which may, I think, be attributed in some measure to the intensely cold and protracted winter that immediately preceded. Many of them are also destroyed in embryo from another cause which I discovered. It sometimes happens that the female has not sufficient strength left to extricate herself from the outlet of her habitation; in which case her shrivelled body remains effectually closing it up. On the following season after the young are excluded from the eggs, they have not the power to penetrate the walls of the habitaculum (which are perfectly water tight) and make their escape from it, and thus many perish, as I elicited by actual experiment.

During the summer of 1853 they were here in increased numbers, more indiscriminate in their attacks, and of course greatly enlarging the field of their operations. They seem to adapt themselves to any tree they are placed upon except the peach, at least it is so in regard to the domesticated fruit and shade trees, but are usually found most abundant on the linden, silver maple and Lombardy poplar. Many persons have availed themselves of the caution thrown out in a former communication, and notices of the press in general; notwithstanding, I find some trees in my immediate vicinity that are suffering, in appearance at least, from them at the present time. I have also discovered two species of parasitic *Hymenoptera* that destroy the larvæ of *Oiketicus*, or Drop Worm; as these may be regarded as insect friends, I may write out their description and history when I have extended my observations upon them farther. In conclusion I can only recommend a simultaneous manual effort during the pruning operations of early spring, as the most effectual means to accomplish the so much desired extermination of these insects: for, as they do not furnish food for birds or domestic fowls, I can discover no possible use that they are ever likely to perform.

In the seventh volume of the "Naturalist's Library,"

page 110, may be found a description of an allied species from the South by Mr. Guilding, extracted from the transactions of the "Linnæan Society" of the City of London. From the illustrations accompanying the description, the species appears to be much larger than ours, or at least than the species I have attempted to describe, with the posterior wings more angular, and the head larger and more projecting and distinct. The larvæ and the female also differ very materially, but their transformations and habits, so far as described, seem to be merely identical. We may also have different species amongst those that inhabit our own country, but I have not been able to discover more than one in this immediate locality, and I have examined no others.

Lancaster, August 1, 1854. S. S. RATHVON.

For the Farm Journal.

Mowing Machines.

DEAR SIR:—As you desire your friends shall give you their experience in the use of such reaping or mowing machines as they may have *practically tried* this harvest, I proceed to give mine:

I purchased one of Ketchum's mowers for the harvest of 1853, and have used it (or tried to) for two seasons. I believe it to be one of the cleanest cutters among the mowers, and to cut as low to the ground with facility, if not lower, than any other. An improvement was made upon it this year I am told, by which it can be driven when running to the right or left; mine turns only to the left.

I consider that I have given Ketchum's mower a fair trial for two seasons—nay, I have "picked the flint and tried her again" so often that the neighboring blacksmith can speak most favorably of my custom, and can say something for my patience and perseverance likewise. I will say that all due precautions were used while running the machine, as to oiling, &c., and as to keeping the nuts screwed up tight, *as far as this latter was possible*.

In my experience this mower will *not* cut heavy down clover or other grass without repeatedly breaking. I think I have been taught by this experience what its defects are. The pitman bar connecting the knives to the machine is too slight, and not sufficiently heavy and stout. The motion of this bar or connecting rod is more rapid upon this machine than upon any other I have seen, and the quick, *jerk*ing motion it imparts to the knives is the reason, I presume, that it is so clean a cutter, and it may likewise be the reason why it breaks so frequently.

Another fault I find with it is, that the nuts confining nearly all the important bolts are most difficult to get at, in attempting to lighten them, after the machine is prepared for running. These nuts are all *under*, instead of *on top*, the plates, as I think they should be, and where they could be much more readily reached. The nuts on the end of the pitman bar, which confine the brass box, are also very difficult to reach, and are consequently often working loose. To this may be added that most of the iron works, such as cogs, bolts, keys, nuts, &c., should be made of better iron. They are very defective in this particular, and so I have reason to believe are most of the modern machines. The truth is they are made too much for sale. Two horses, or better two well

broken mules (for they pull more evenly and steadily than the horse), will carry Ketchum's mower in any field with ease.

In this county a great many of the different mowing and reaping machines have been tried this harvest, and used with diversified results. Where the grass or grain stood up well, and was not too heavy, and all proper precautions taken to keep a sharp look-out for the nuts, bolts, &c., they did their work—and paid something to the blacksmith besides.

I will venture the opinion here, be it worth much or little, that none of the combined mowers and reapers now in use will answer to depend upon on farms of any extent. I would not oppose the purchasing by a small farmer of a good combined machine, if he find one. Their economy, if they stand, is manifest. But upon larger farms the less complication the better, and the less running to the blacksmith will there be. Let each machine do its own work *if it will*, and be thankful *if it does*. The best of these machines yet invented will, in my opinion, (I except Hussey's old reaper, which for durability is most excellent and for draught most execrable,) break down before you want them to.

We want, and will yet have, Mr. Editor, more RELIABLE machines. Yours, &c., B.

New Castle county, Del.

For the Farm Journal.

Advantages from Liming.

MR. EDITOR:—In August and September, 1842, I commenced liming a piece of new ground on the "Muncy Hills" for the second crop of wheat, instead of rye for the second crop, which is the practice on that kind of land generally, but only got three-fourths of the field limed (about twelve acres). I put it on in half bushel heaps, spread as soon as slacked, fifty bushels to the acre. The advantage was so great that the wheat looked as if the ground had been manured and the rest of the field not. On the twelve acres thus limed the clover took and grew finely, on the rest of the field the clover was small and but little of it. In 1844 there was a drought; the clover that had been limed stood it well, while the clover in the rest of the field was literally burned up. It showed here, as it does every where else, that there is no use in putting up stakes to tell where you limed or manured a part of a field.

After putting on over 1500 bushels of lime on that kind of land in various ways, I concluded that thirty bushels was enough, and did as much good as where we put on fifty or sixty on our bottom lands along Muncy creek and the West Branch. I have raised the "big clover" four feet long on that hill land after it was limed with thirty bushels to the acre.

The bottom lands are generally alluvial, and hence more vegetable matter, which accounts for its requiring more lime. I have put on the bottom lands along the creek 100 bushels to the acre with less perceptible benefit than 30 on the hills. Nature provides all things right; the uplands belong generally to people hardly able to make a living, and if the land required as much lime as the creek and river farms, they would be a long time in getting them limed; as it is, they are more equal.

There is great danger in over-liming where you lime the second time. I have seen and heard many good farmers say they had ruined parts of their fields by liming too strongly, particularly for oats if the season is dry—it will look yellow and good for nothing in spots, as if the grub worms were at it. I could name several fields within a mile of me, that are in with oats now, that have been much injured by over-liming, in some of which the lime heaps have been badly cleaned up, and the oats is spoiled on account of it. The fields most liable to be injured are either of a gravelly or sandy nature. A heavy clay will bear almost any amount of lime, provided you have drained the land. I have limed in many ways, and find that without vegetable matter it is not only bad policy but loss of the interest of your money, and perhaps injury to the crop—for instance, liming a corn stubble won't pay.

Generally speaking, the best place to lime is on a sward two years before plowing it down, or for corn after the sward is plowed, or on new ground. The season I moved on the farm where we now live, I cleared eight acres of land, and limed it with fifty bushels to the acre. My new neighbors thought it strange, but concluded as I was a new-comer in their township, and as to this freak of mine, it was downright nonsense—not one of them approving of it. The crop told for itself, and now hardly a man that is able to get the lime on in time where he clears, within five miles of me, but what does the same “foolish thing,” as it was then called. I got one of my clearings limed in part, and 100 bushels of it hauled on, after the wheat was up, in small heaps; part of which froze and I did not get it spread till the wheat was off; where it was spread, and also around the lime heaps, the wheat was six inches taller and much better. You must be careful, if you haul lime on wheat after it is up, to see that it is thoroughly slacked before spreading, or it may injure the crop.

The use of lime for twelve years, and in one year of time putting on nearly 7000 bushels on a worn out farm, which had been “tenanted” for forty years before I moved here in 1849, I think gives me an opportunity of knowing what *has* and what *can* be done with lime. As to the results on the various fields, the amount of lime and manure put on, and grain and grass raised from them, I have it all written down in my “lime book.” At some future time I may give the experiments on single fields from 1849 to the present time. Yours, with respect,

B. MORRIS ELLIS.

Muncy, July 20th, 1854.

[We trust our friend will not let it be lost in the future.]

For the Farm Journal.

Agricultural Gleanings.

LIGHTNING.—Its conductors are in the following order of perfection: gold, silver, platina, brass, iron, tin and lead, metallic ores, the fluids of animal bodies, water, ice, snow, green wood, and most earthy substances. Its non-conductors are: glass, sulphur, resin, silk, cotton, feathers, wool, hair, paper, ashes, and most hard stones. Hence in thunder storms, we should avoid standing in the open air, under tall trees, or against high buildings. The safest situation is a house with

doors and windows open, and a seat on chairs, mattresses, couches or beds, filled with hair, wool or feathers, in such part of a room as may be out of the influence of conductors, and may not be in the way of any current between windows or doors.

To tell the distance lightning is from you: The progress of sound is about 381 yards in a second, so that if there are nine beats of a clock, or ten of the pulse of a person in health, between a flash of lightning and the report of thunder, the distance is about two miles, and no danger is to be feared; but if no more than four beats of the clock, or five pulsations, between them, danger may be apprehended, and precaution should be taken.

WEATHER.—Signs of wet: Previous to rain cattle and sheep seem more desirous of feeding, and leave their pastures with reluctance; swine grunt loudly and retire to their sties; ducks and geese wash repeatedly and fly back and forth; swallows fly low and twitter louder than usual; poultry roll much in the dust; dogs become drowsy and stupid. A change from cloudy or unsettled to greater wet is announced by flies swarming and stinging more than usual.

Fair weather signs: Bees flying abroad, crows croaking in the morning, robins singing early on the elevated branches of trees, and gnats flying in a columnar form within the rays of the setting sun.

From the appearance of the earth: Moist stones and dry soil prognosticate rain, a continued fall of which may be expected if the ground seems dry; as the contrary occurrences announce that the evaporation of humidity has ceased, and that fine weather is approaching.

From the atmosphere: If in the evening a white mist spread over a meadow contiguous to a river, it will be evaporated by the sun's rays, and is indicative of fine weather through the day. If a mist over low ground draw off towards the hills it announces a fine day. The gradual diminution of clouds till they can no longer be seen is a sign of fair weather; so also are abundant dews. The contrary events announce a change of weather, which may more clearly be known by the clouds gathering and lowering, and by the sky after serene weather becoming undulated with small clouds. Frequent variations of the wind indicate rains—so do clouds moving in opposite currents, and the lowermost wafted rapidly.

SHEEP will fatten well on turnips, but still better if they have some hay or meal with them. It is essential to the evenness of the wool that the sheep are fed uniformly, for when they are not the growth of the wool is checked, a second growth succeeds, and the point of contact becomes so weak as to snap under the operation of the manufacturer.

Experiment in England: 184 sheep and 30 lambs were kept for six weeks on the product of two acres of turnips. They require to be kept clean, well littered, and regularly salted.

ANIMAL FOOD.—Bear meat and opossum the strongest, next pork, this was the food of the Athlata of old, next beef, and next mutton. Of all the parts of an animal, fat is the most and flesh the least nutritive. Venison and game generally are less nutritive, and more easily

digested; this is the reason why the rich and epicures prefer them, because they can eat a larger quantity without overloading their digestive faculties.

VEGETABLE FOOD.—The quantity of actual nutriment in the following grains ranks them as follows: Indian corn, wheat, barley, rye, (potatoes,) buckwheat and oats. Rice in a rice country is the cheapest article of diet, but not here in Pennsylvania. Among the roots, such as beets, parsnips, &c., the sweeter the root the more nutriment it contains.

COOKERY.—Beef lost by boiling,	26½ per cent.
do do roasting,	32 do
do do baking,	30 do
Mutton lost by boiling,	21½ do
do do roasting,	33 do
Potatoes lost by boiling,	2 do
do do roasting,	40 do

Long continued gentle heat, whether in roasting, boiling or simmering, renders meat more tender, juicy and digestible. Stewing is the most frugal, most wholesome, and may be made the most palatable.

METHOD OF CULTIVATING A SWAMP.—Divide it into lots about three rods wide by ditches, the middle of the lands to be the highest; plow it in the fall and haul on to it gravel or upland soil; in the spring stir it and plant potatoes; the next year haul on more top soil, give a coat of dung, sow grain, and lay it down to grass.

For the Farm Journal.
Wheat and Cheat.

MR. EDITOR:—Since the article of Mr. Henry Miller, in the Farm Journal for June, relative to wheat turning into cheat, has not been replied to, I beg leave to offer a few remarks in order to bring the "matter to a correct conclusion."

The ten acre wheat field in Pickaway county, Ohio, will readily be explained by the fact that the wheat was ripe enough to shell a quantity sufficient for another crop, which, in consequence of moist weather, was produced, and again left to ripen for experiment's sake to a degree to shell for a third crop, "when lo! the entire field was turned to cheat." In the first instance of the wheat shelling, the cheat also shelled; for when wheat is ripe enough to shell by the harvest operation, sufficient to cover the ground for another crop, the cheat will be found to shell all during that operation, and as most all wheat has some cheat accompanying it, in the second shelling (if the wheat had as much cheat as I have seen in excellent wheat fields,) the quantity must have been more than sufficient to become master of the field, if the term is admissible, and the weather may have been dry, the cheat, being more hardy than the wheat, survived, while the wheat dried up, hence "the entire field was turned to cheat." As to the "freaks of nature" contended for in the case in question, I know of no "principle of philosophy" that proves more conclusively the plain and acknowledged laws of nature, instead of the freaks, than the ten acre field in Pickaway county, Ohio. The two plants are so entirely different in root, stem, leaf and seed, that it needs no more than an impartial comparison to show that they are totally dissimilar in every respect, and that it would be as reasonable for an apple tree to turn to a chestnut, as wheat to undergo the transmutation in question. The malformations of a

child with a horse's head, or a calf with two heads, which Mr. M. produces as an argument to prove the transmutation of wheat to cheat, falls to the ground, when the child in fact cannot be called a horse, but is still a child, nor the calf a sheep, so that neither of these malformations can be called a transmutation. "The disturbing cause," why "the husbandman gathers tares instead of wheat," is that the seed of the tares are carried into his field by some means or other.

Orwigsburg, July 19, 1854.

J. S. KELLER.

The Points of the Spanish Fowl.

A writer in the Poultry Chronicle thus describes the "points" in the Spanish fowls:

"The cocks should have upright, the hens falling, combs; but there is a peculiarity in this point, the birds reversing the carriage of combs, with perfectly white faces, would be judged more meritorious than others, faultless in this particular, but having red intermixed with white. It cannot be too strongly impressed on Spanish breeders and amateurs, that the purely white face is the most arbitrary rule in judging fowls in this breed, and will cover many trifling deficiencies. Of course the plumage should be black, without mixture of any other color. The body should incline to a point, every way, to the tail, which should be ample, and carried cheerfully. The head should be long, and the face skinny; the beak strong, the legs long, compared with many other breeds, and, invariably, of a leaden blue shade.

"Although cocks at seven months, and pullets at ten, ought to give promise of what they will be when they come to maturity, yet I would not advise the beginner to be precipitate in forming a judgement, and condemning those that are not apparently perfect, as many, and more especially pullets, are from eighteen months to two years in becoming really white, and it is undeniable that a Spanish hen improves up to three years old."

Points of the White Dorking Fowl.

Another correspondent in the work above referred to gives the following as the points of the White Dorking fowl of the most approved standard:

"First, the color: This should be a pure white, without any shade of yellow, or any other colored feather of any description about the body. When the attention of the novice is directed to this single feature, he will be astonished to find how few specimens (especially of the cocks) will pass in this respect; but still it is essential: for as beauty is the only point in which the White Dorking is superior to the Grey or Speckled, so much more is it necessary that the feature which gives them this pre-eminence should be distinct and perfect.

"Second, the comb: Both single and double combed birds may be pure bred, but it is now, I think, almost decided that this beautiful appendage should be double; indeed, any person of taste, who has no knowledge whatever of poultry, would immediately pronounce for the double, as being more graceful, and more in harmony with the general appearance of the bird; in the cock it should be very broad at its base near the beak, gradually passing over the back of the head in the form of a triangle, the point of which should be slightly curved

upwards; the whole of the surface should be evenly serrated, and not ragged and unequal; the color should be a bright red, indicating a healthy state and good condition; the same remarks will apply to the hen, only that the comb will be much smaller.

"Third, the form: The back should be broad, and from the point of the beak to the root of the tail should be almost straight; the breast should be broad, full, and gracefully rounded—wherever a large bird is found with a concave back, a straight instead of a full breast, legs large and not white, and a short instead of a flowing tail, you may strongly suspect a trace of the Cochins blood; the legs should be white, a proportionate length, and a fair distance apart to allow of a good broad breast; each foot should have five claws, the fifth being as distinct as any of the rest. Viewing the bird as a whole, the attitude should be erect and bold, lively in its motion; and appearing full of spirit at all times.

"Fourth, the qualities: In breeding Dorkings, one thing is essential to success—I here refer to a dry soil; if this is present, and they receive an ordinary amount of care, they will be found a prolific bird, very fast growers, and easy to rear; my broods, this year, varying from ten to fourteen chickens in each, and up to the present time we have only lost one, and that a weakly one, the day after it was hatched. All our broods to a bird are in strong and healthy condition; they are small eaters, good layers, and though not laying to the same extent as the Cochins, their eggs are finer and more delicate; as mothers they are excellent, taking great care of the young chickens, and not forsaking them at so early an age as the Cochins. Their superiority for the table is so well known, that it will be unnecessary to enlarge on that point."

Canker Worms.

We clip the following extracts, relative to preventing the ravages of these pests, from a letter written by Thaddeus William Harris to the *New England Farmer*:

"Fourteen or fifteen years ago, when canker worms were very plentiful and destructive in this vicinity, the use of tin collars, applied around the trunks of the trees, in the form of inverted funnels, was recommended to prevent the ascent of the female insects. In the autumn of 1852, they were employed in this place by several persons, who have reported favorably concerning them. The feet of the female insects are not provided with suckers or claspers like those of flies; and their structure seems to be such as would necessarily prevent their walking or retaining their foothold against gravity, beneath a perfectly smooth, polished and dry surface. Hence, when Mr. Everett first showed me his glass collars, I was very favorably impressed with the contrivance, and accepted his offer to apply them to some of my trees, in order to test their efficacy. Two of my cherry trees and two small plum trees were provided with glass collars in the autumn of 1853; and these four trees have *almost* entirely escaped injury, while some other trees in my garden, not protected with collars or with tar, have been more or less seriously injured by canker worms. I do not consider this experiment as conclusive, because there have been some canker worms on the protected trees; those on the cherry trees may

have come from two infested elm trees, growing near the fence in a neighboring lot, and so close as to interfere with some of the branches of my two cherry trees; the plum trees, on the contrary, were sufficiently distant from infested trees. Moreover, a friend tells me that he saw a female insect pass over the glass collar on one of his trees last autumn. The glass in all cases may not be sufficiently smooth; or perhaps moisture on the foot of the female or on the glass may enable the insect to stick to the glass. Further experiments in the use of this contrivance seem, therefore, to be wanting before an unconditional verdict can be given in its favor. It is my intention to apply these glass collars to other trees in my garden next autumn; in the expectation that, if effectual as a preventive to the ascent of the female insect, they will prove in the course of time cheaper and better than any other remedy hitherto employed.

"Applications of tar, or of oil, according to the well known methods, if made in season, and renewed as often as necessary, have proved good remedies against the depredations of canker worms. My own confidence in them not only remains unimpaired, but is confirmed by continued experience. The use of these remedies is attended with much trouble and considerable expense, against which are to be taken into account the satisfaction and profit arising from the preservation of the foliage, the fruit, and even the continued health of the trees.

"In the enumeration of remedies we are not to forget the services of the feathered race. The warblers, buntings and other small birds devour great numbers of canker worms. Even the cherry bird earns a share of our early cherries by the havoc he makes among the canker worms. I wish as much could be said in favor of the robins, but candor obliges me to confess that insects form but a very small portion of their food, while they are unsparing in their attacks upon our cherries. Domestic fowls, if allowed to go at large among the trees during the seasons when the female insects are rising from the ground, devour great numbers of them. During the present summer, some cherry trees growing in a yard where fowls are kept have entirely escaped the attacks of canker worms; while trees in an adjacent yard from which the fowls were excluded have had their leaves wholly destroyed by the insects."

Pumpkins for Milch Cows.

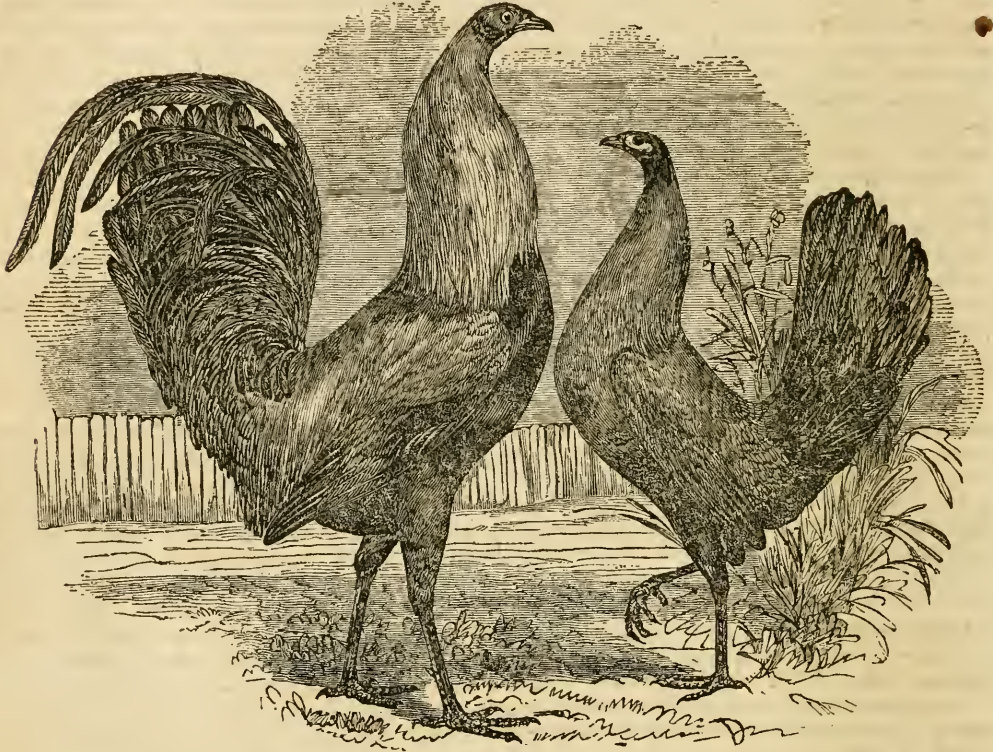
Many of our Chester county dairymen are in the habit of raising pumpkins for fall feeding to their milch cows, which they find are eaten with a great relish, and help very much to keep them to their milk, both before and after the season of pasturing is over. It is important that cows, which are generally allowed to go dry all winter, should be made to milk on as late as possible in the fall, and by the aid of pumpkins stored away for the purpose, we have known them to milk well until the first of January, and at least two months longer than they otherwise would do.

Moderate feeding with them should be commenced early in October, even while pasture is plenty. The variety or change in food, which for man is desirable to promote appetite and relish, is generally unthought of or neglected when applied to stock, but we think is of some

importance. Every farmer has observed how eagerly cattle will embrace the chance of a fresh field of clover, when turned into it even from an abundance of more nutritious and valuable natural grasses, and we think an occasional feeding of some corn fodder, pumpkins, cabbages, &c., even when pasture is plenty, increases the appetite and promotes health and thrift.

A very large quantity of pumpkins can be grown among the corn with but trifling expense, and we would

recommend farmers to experiment the present fall with feeding them to their cows, so that if they prove as valuable as we have found them, a larger quantity may be raised for this purpose another season. On some farms in Chester county where lime has been extensively used, it has been found very difficult to raise a crop of pumpkins, the cause of which has been attributed to the lime. Have any of our readers experience on this point? If so we should like to hear from them.



WILD INDIAN GAME FOWLS,

From the Yard of Jonathan Dorwart, Lancaster, Pa.

Among the large collection of fowls shown by Mr. Dorwart, consisting of six varieties of Games, White, Black, Buff and Grey Shanghais, Cochin Chinas, Japanese, Creole, White and Speckled Guinea Fowls, &c., the most beautiful, graceful and sprightly are the pair represented above by Clarkson, from life. Color bright red, with breast and tail rich jet black. In strength and activity they cannot be excelled. Age 18 months, weight, male $5\frac{1}{2}$ lbs., hen $4\frac{1}{4}$ lbs.

Pecan Nut.

MR. DARLINGTON:—On reading the article on the cultivation of the Pecan tree, over the well known signature of W. D., in the Farm Journal, it occurred to me that I had seen a sapling of the same kind of a tree growing on the farm of W. R. Parker, in New Castle county, near Middletown, Delaware. The nut being a great favorite with me, at first leisure I went to see the sapling, and was surprised to find that it had grown to be a tree, which I found from measurement to be five feet one inch in circumference at four feet above the surface of the ground, carrying its thickness well up, and making a tree that Mr. Parker and myself judged of

sufficient size to produce fully three-quarters of a cord of wood. The nut from which this tree grew was brought from Illinois in the year 1819 by Hon. A. Newton, formerly a United States Senator from Delaware. Mr. Parker saved a good sized dairy salt sack full of the well matured nuts. I first saw them on the high lands of Missouri and Illinois. I have also seen them in high perfection at a place called "Pecan Grove," on the low lands on the margin of the Mississippi river below New Orleans, near the celebrated battle ground. The nuts are excellent and the tree of quick growth, as you may perceive from the above statement. Respectfully,

New Castle county, Del.

J. JONES.

Work for the Month.

FARM:—The operations of the farmer, during this month are of great importance, as upon his labors depends, to a considerable degree, the success of his next year's wheat crop. If the ground be not properly prepared, or if the seed be not of good quality, and sowed in season, it is futile to expect a remunerating return. First then we should say, let your wheat ground be in good condition; second, let your seed be good and free from weeds, rye &c.; and lastly let it be sowed in season. In this section from the 15th to the 20th of September, is considered the best time; but we are assured that some of the largest wheat growers in some of the adjoining counties sow as early as the 1st, and it is said never miss a crop.

Barnyard manure, until recently was almost invariably applied to the grounds intended for wheat, but too generally this manure was sadly deteriorated by the escape of ammonia, and other fertilizing ingredients. Guano, possessing most of these virtues, that the improvidence of the farmer has suffered to escape from his manure heap, acts as a charm upon the wheat crop, and the money invested in it almost invariably returns a good interest. Five or six pecks is ample, if the seed be good and drilled in. If sown broadcast, a larger quantity will be required. Leave no hollows undrained where the water can collect and "drown out" the crop.

In harvesting the corn, it is scarcely necessary for us to recommend it being cut at the ground, as "topping" is now seldom practiced in this state. Farmers are generally aware that the grain of the topped corn is considerably lighter than that which is cut at the roots, to say nothing of leaving stalks standing and straggling about the field. The plan of selecting the seed corn from among the most thrifty growth and earliest ripening, although attended with some trouble, is found to be highly advantageous.

Examine and clear out corn cribs, granaries, &c., and make them rat proof before putting in the new corn.

In gathering potatoes, select for seed the varieties wanted for next year's planting, as they can more readily be distinguished now than at any subsequent time. In storing away potatoes, see that no wet earth adheres to them. Make arrangements to reconstruct the farmers's laboratory, the barn yard, so as to save liquid from running away. We can think of no better outlay of money, than a manure shed through the centre of the yard, where the manure should occasionally collected through the winter, and composted with soil, weeds, &c. It might be opened on two sides, so that cattle could run over it, and would also answer for shelter for them,

FRUIT ORCHARD.—Budding may still be attended to, at least with apple and peach trees. Examine ties to see that they are not injuring and cutting into stocks or buds. *Manure, plough and subsoil* ground intended for fall planting of orchards. Select your list of varieties, and have them ready for use. Grape vines should have superfluous wood thinned out. Cut out decayed berries from bunches. Pears are best ripened in the house, and should be gathered so soon as they show any signs of turning color. Strawberry beds should be thoroughly weeded out and kept clean during the fall; for new

plantations the spring is preferable. Apply wash to bark of trees if not previously done; and cut out all blighted limbs.

VEGETABLE GARDEN—Within the first ten or twelve days in this month is the proper time to sow cabbage seed for transplanting into frames, to keep through the winter. The season is so uncertain that there is danger of being too early as well as too late. If the fall continues warm, so as to continue their growth, it must be checked by one or two transplantings. Early and large York and Early Sugar-loaf, are the best for this purpose. Prickly-seeded Spinnach should also now be sown for winter and spring use, in ground *heavily manured*, and at two or three periods in the month. Sow in drills ten inches apart, and cover with the rake. When the plants are up, thin out to three or four inches. The early sowings may be used in the forepart of winter. Transplant Endive and sow Radish seed, Corn Salad and Winter Cresses. Lettuce seed should also now be sown, to transplant into beds next month, to remain over winter. Brown, Dutch and Hardy Cabbage are the best varieties for this purpose. Earth up celery as it progresses in growth on dry days only. Gather all seeds as they ripen, also medicinal and pot-herbs. New plantations of the latter may now be made by division of the roots. Look over cucumber vines and gather for pickling before they are injured by frost. From the middle to the last of the month, sow Cauliflower seed, on a rich piece of ground finely prepared, and rake the seed in carefully. If the weather is dry, water before and after they are up, and in the course of a month or six weeks, prick the plants carefully into beds, about three inches apart, and cover with glass as for winter cabbage. Onion seed to stand the winter, may also now be sown. Hoe turnips and cabbage and keep the ground clear of weeds, removing all offal from the ground as each crop is gathered, and haul to compost heap. Keep all weeds from going to seed.

Fayette County Stock, &c

The editor of the Washington (Pa.) Reporter recently took a stroll through Fayette county, and one morning found himself on the farm of Gen. Goe, (who, by the way, is a good friend of the Farm Journal,) and—but we will let him tell his own story:—"We spent an hour in looking at his stock—the finest, in many respects, we have seen west of the mountains, anywhere. He has Durham cattle that will compare with the best ever exhibited at our fairs—sheep not excelled even in our own county, which is saying as much as can be said—hogs, "*Suffolks*," with all the points of excellence claimed for that *peculiar* description of animal, and fowls of all kinds, the most celebrated in this country. For his fine French merino buck, "*Lafayette*," he paid *five hundred dollars*, and his fleece weighs 24 lbs! for his ewe he paid *three hundred dollars*, her fleece weighing 23 lbs. These are remarkably fine sheep, fully equal to any we have ever seen of the kind. The ewe is decidedly the finest imported French merino we have yet met with anywhere. Probably "*Lafayette*" is not a much superior sheep to Mr. Wm. Bukey's "*Matchless*"—so similar, indeed, are they that we could not draw the distinction nor make a satisfactory comparison in our own mind. *Not so with*

regard to the ewe; she is certainly the best animal of this species we have met with in all our walks. Mr. Goe has some six hundred fine sheep—the clip from which will not fall far short of seventeen hundred pounds this season. We trust Mr. G. will be reimbursed for his large outlay in imported stock. He has Durham calves at five weeks old, which will outweigh some of our native calves a *year old*! What think you of that, ye who are faithless as to the value of imported stock? Gen. Goe, we predict, will work a thorough revolution in the stock growing character of Fayette county.”

Leaving Mr. G.’s the writer soon found himself at W. B. Patterson’s examining a fine Morgan horse, the property of the Fayette County Agricultural Society. He continues:—“This fine stock horse has many of the points of our own, ‘Cotterill Morgan’—though not so *fine* a horse, in many respects. For farm purposes, we think him superior to the ‘Cotterill.’ He is a horse of great bone and muscle—powerfully built, and apparently capable of great endurance. He is very popular with Fayette county farmers, and has been very extensively patronised. We found Mr. Patterson—a son of Gen. Patterson, long and favorably known as Representative in the Legislature from this county—an exceedingly agreeable and pleasant gentleman, engaged in milling, merchandizing, keeping post office, improving stock and farming—occupations enough for any one man this hot weather, and a good many more than *he* can prosecute with advantage until the *rainy season* comes again.”

Spaying Milch Cows.

Spaying of cows, at a certain period of their life, offers immense advantages to the agriculturist and consumer, in producing much augmentation of milk and meat. In this way the animal escapes a host of ailments, and spares a host of losses, sustained in consequence of her *bulling* at times when it is inconvenient or impossible to gratify her desires. Spaying of cows, Professor Bouley says, creates a new race, sterile for breeding, but productive and valuable for the purpose of yielding milk for the dairy and meat for the butcher. Spayed cows yield annually, for the first two or three years at least, a third more milk than they were in the habit of giving before the performance of the operation. A cow spayed thirty or forty days after calving, or at the time she is giving the most milk, continues to yield, if not for the remainder of life, at least for many years, the same large quantity of milk, and sometimes more than she gave at the time of performing the operation.

French veterinarians have, for many years, had their attention directed to this subject; and each year their experience, as well as that of agriculturists, leads them to speak more and more favorably of the practice.—*French work.*

Washing Trunks of Trees and the Massachusetts Horticultural Society.

We are pleased to see that the Horticulturist, in the August number, confirms the views we expressed in our leading editorial of July, respecting the very absurd report and resolutions of the Massachusetts Horticultural Society, as to the advantages of scraping and washing the trunks of trees. From a kind of blind faith in the

sayings and doings of a society, heretofore so distinguished as that of Massachusetts, or from some other cause, the said report has been swallowed *whole* by all our other agricultural and horticultural exchanges, accompanied in many of them with highly approbatory comments. If we recollect right the Michigan Farmer was one of them. The Horticulturist speaks of the resolutions being credited to the Massachusetts Horticultural Society, but says “we cannot believe that it; or any society composed of intelligent horticulturists, would send out under its sanction such nonsense.” This is a charitable supposition, and we hope may prove true. It had not occurred to us before. Probably like the celebrated moon story, the report was concocted by some wag in the land of Yankee notions to fill up a vacant space in the paper, and stifle the call for “more copy.” Such jokes are played off at the expense of our esteemed friends oftener than they should be. We ourselves have doubted whether the wooden nutmegs were *really* made near Boston, as has been positively affirmed.

Query—Have the *Boston Pear* and *Hovey Cherry* fruited this season?

A Good Opportunity.

The approaching State and County Fairs present a fine opportunity to young men desirous to earn fifty or a hundred dollars by two or three days active exertion, in canvassing for the Farm Journal. There are many of these fairs at which five hundred subscribers to the Journal might be obtained, were one or two energetic young men to take it in hand, and get their friends to assist them. Commissions 33 per cent.

We have made ample arrangements so that no delay need be anticipated.

Webb’s South Down Sheep.

By recent arrivals from England, we are advised of a public letting of South Downs at Babraham, the seat of Jonas Webb, the average of which was higher than ever before known. Unusual interest was excited, and a larger concourse of people were present, from its being understood that Mr. Webb would not this season be an exhibitor at the meeting of the Royal Agricultural Society. Seventy-five sheep were let at the hammer for 1,801 guineas, making an average of £25 4s. 3d. The highest priced, a yearling, one of the six picked of the whole flock, was knocked down to Mr. Lugar, of Hengrave, Bury St. Edmunds, for 102 guineas. One was let at 80 guineas, one at 71, one at 51, 7 at 50, 6 at 40 and upwards, 6 at 30 and upwards, 21 between 20 and 30, and the balance ranging from 6 to 20. The comparison with former years is as follows:

Years.	Number let.	Average price.
1851	62	£22 2s. 6d.
1852	69	22 3 1
1853	71	22 6 3
1854	75	25 4 3

The highest price at which a single sheep was ever known to let was last season, when 130 guineas were paid by Mr. Jonathan Thorne, of New York.

The times are encouraging to breeders of good stock of all kinds, and the continued high rates of the South Downs for the last four years shows that with them, no

less than with other kinds of stock, prices are not merely speculative, but represent and indicate a real value and superior qualities. Every year predictions have been made that stock must come down, but they have continued to go up, and the present year shows a larger amount of money invested in improved and imported cattle and sheep than any one previous season.

Chinese Wistaria.

The Chinese Wistaria, if trained to a pole eight or ten feet high, and kept well cut back for some years, will in process of time have all the beauty and appearance of a weeping tree, and, what is even more valuable, bloom in succession all summer. So says the Michigan Farmer. Have any of our readers proved this last to be correct?

A Word to Correspondents.

Many of our correspondents seem not to be aware of the fact that it is necessary for us to have all the type set and pages imposed, ready to send to the foundry for stereotyping, by the 20th day of the month preceeding the intended issue. Communications sent to us after that time must of necessity lay over until the succeeding number, which not unfrequently throws them so much out of season that their usefulness is almost wholly destroyed. Will our correspondents, therefore, do us the favor to send in their communications early each month?

Veterinary Homœopathy.

We have lately had placed in our hands a small volume, published in Philadelphia, with the above title, containing homœopathic remedies, with the diseases and symptoms for all kinds of farm stock, horses, cows, sheep, hogs, &c. We never had much confidence in homœopathy for the human subject, and still less when applied to animals, but are nevertheless open to the presentation of any facts bearing on the subject. In this progressive age it will hardly do to condemn any thing on first impressions, however ridiculous and absurd it may appear. The remedies for all the known diseases of animals noted in the book, and which are very minutely described, have been it is said applied most successfully in a large number of cases. We are told by some of our friends of cases they have seen cured, or relieved, by this system in almost an incredibly short time. One of the travelling menageries, owning some very valuable and well trained horses, it is said has a homœopathic physician employed to accompany it on a regular salary. As the work is but of trifling cost, and the remedies also very cheap, it may be an advantage for those owning valuable stock to obtain a copy, and give the system a trial. We always thought homœopathy had one merit at least, of doing no harm if it did no good, unless harm should result indirectly from delay. A correspondent of the Wool Grower, who appears to have had some experience in it, writes as follows. What he calls the "*rational*" treatment is to be understood as meaning the homœopathic. This is yet the disputed point:

"The *rational* treatment of Domestic Animals is gaining ground daily, and fast superseding the old and barbarous system. I have tried it to some extent, and find

it acts more promptly on animals than on persons, for the simple reason that their food is not so artificial, and besides they have no imagination to draw upon. I have treated successfully various cases of acute colic in horses, "hollow horn" in cows, catarrh or influenza in horses, even when it was supposed to be glanders; also the various stages of distemper, and other ailments too numerous to mention. All roweling, bleeding, drenching, and kindred heroic remedies can be dispensed with.

"Though not a "graduate" nor a "practitioner," I have no small medical knowledge—and great desire to lessen the suffering of both man and beast; hence I trouble you in this way, and would bespeak for this beautiful system your candid consideration. I have received a medical education at the Homœo. Med. College in Philadelphia, but attended more as an amateur than with a view of going into, and becoming a general practitioner,—for the reason that I had too much other business on my hands, and was too old a man to undergo the fatigue of a country practice. I feel well satisfied that the general introduction of this system among farmers, will be the means of saving the lives of much valuable stock, and eradicate many hereditary taints to which they are heir."

Cooked Food for Stock.

The following from one of our foreign exchanges confirms the advice we have long been urging in the Farm Journal, of the great advantages of cooked over uncooked food. This is one of the improvements in farm management, which is sure to make its way, and where theory and practice go hand in hand. We contend that there is the same reason to cook food for stock as for people, viz: *to develop the nutritious matter and to make it easier digested.* That animals will thrive and grow fat on uncooked food only shows that their power of constitution and digestion is stronger than in men, and not that they would not thrive faster and get fat sooner on food which has its whole nutritive matter brought out by steaming or boiling. We have never yet seen a complete arrangement for steaming food for stock attached as it ought to be to the barn, convenient to stalls and feeding troughs, but we think something of the kind is greatly wanted, and we should be pleased if any of our readers, who know of any plan for a boiler to accomplish this, and also avoid all danger from fire, would send a description for the Farm Journal. The steam distributing pipes should be arranged convenient to the place of deposit for hay, corn fodder and other bulky articles, to avoid the loss of time and labor in much carrying. The boiler should also be readily supplied with water, and be so constructed as to economise fuel and heat up quickly. These are desiderations more readily obtained in a plan for new buildings than adapted to some of our present old fashioned barns, where they cannot conveniently be arranged. Mott's patent portable boiler is the best we know of. Having a double casing to prevent any loss of heat or waste of fuel, it will kindle up very quickly with a few light pieces of wood, and when placed near the pig pen will be found a very valuable aid in fattening hogs. In the fall of the year there is a very large quantity of refuse vegetables, which generally go entirely to loss, such as small potatoes, beets, cabbages,

soft corn, pumpkins, &c., not worth storing away nor saleable, but by boiling or steaming would supply the place of a large amount of sound corn, and be equally valuable in the fattening process.

We have known corn fed to hogs in such quantities in the fall of the year, much of it passing through them in an undigested state, that we are satisfied money would have been made by the farmer if he had *bought* his pork instead of feeding it.

Mott's boilers are of sizes from 15 to 120 gallons. The boiling and steaming of food for stock, in connection with cutters for cutting hay, straw and corn fodder, we have entire confidence will make their way into general use among farmers. We have never known them fairly tried with any but good results. The article is as follows:

"Four heifers were selected, as equal in all respects as possible, and six pigs were also selected, from the same family; each lot was divided by the selection, alternately, of an animal. All were weighed, and at the end of each week during the experiment each animal was weighed.

"In the first week of the experiment the fermented food consumed was much less than the other, and the increase of the pigs in live weight is considerable more; and the heifers also seemed to have made rapid advances. The second week, however, changed the scene entirely. Those on cooked food were making steady progress, while those on fermented food had produced scarcely an increase from the preceeding week. It was then observed that the bowels of the lot using fermented food had been confined, and had become free in the second. The apparent success in the first week was the result of indigestion and accumulation of undigested matter in the intestines.

"The experiment continued for twelve weeks—those on cooked food thriving and increasing, the others not. On slaughtering them, it was found that the intestines of the three fed on fermented food were full of worms—thus accounting for their not advancing. There was a difference in the return of the lots of pigs in favor of those fed on cooked food of £1 7s. 3d. This experiment suggests the importance of great care and caution in feeding, before a decided opinion is adopted in so nice and delicate a subject as the nutrition of animals, the health and constitution of which is so various."

Adulteration of Manures.

Judging from an article in a late number of the English Gardeners' Chronicle, as well as other advices, it appears the English farmers are having their own troubles with the manufacturers and vendors of superphosphates and other fertilizers. All the honesty at least does not appear to be centered on the other side of the water. The editor of the Chronicle says, "there was a time when cheating a Scotchman was about as difficult as cheating a Greek," but that they have sadly degenerated in this particular. In the transactions of the Highland Society, a Mr. G. William Hay, a distinguished agriculturist, gives a kind of autobiography of how he was victimized, which, for the benefit of our readers, we copy. A word to the wise is sufficient.

It appears that being desirous of trying experiments

with various manures in the cultivation of turnips, he put himself in communication with a dealer in agricultural manures. Among the substances he wished to employ were superphosphate of lime, nitrate of soda, phosphate of soda, sulphate of potash, sulphate of ammonia, nitrate of potash, phosphate of magnesia, sulphate of magnesia and muriate of ammonia. When the parcels came to be chemically examined, the nitrate of soda was found to contain only 56 pounds of that substance in every 100 pounds; the phosphate of soda just 6 pounds in the 100 pounds; the sulphate of potash 60 pounds; the sulphate of ammonia not quite 9½ pounds; the nitrate of potash about 11½ pounds; the phosphate of magnesia 2¾ pounds, and the muriate of ammonia 54 pounds only. The superphosphate of lime (so called) only contained 4 per cent. of soluble phosphate of lime, the other 96 pounds consisted of water, gypsum, siliceous matter, some kind of free acid, and insoluble phosphate of lime, a perfectly useless substance. On complaint being made, the only satisfaction he got was that they could not think of taking the rubbish back, as it was the *usual quantity* for agricultural purposes.

Mr. Hay also informs the public that in Scotland animal charcoal is not what it ought to be, and that London night soil consists of the scrapings of the streets, with a little limestone and soil, and that gypsum contains 40 per cent. of sulphate of baryta.

Management of Manure Heaps.

One of our foreign exchanges, has a communication from Mr. Robert Austin, Manchester, who says that upwards of a ton of horse dung is produced in his stables daily, and the usual offensive odor and evaporation from it entirely prevented by sprinkling over the dung heap, by means of an ordinary water can, a solution of a pound of common green copperas in a gallon of water.

"The value of this chemical agent in fixing ammonia and strengthening manure, has long been known, but Mr. Austin's practical application may be considered simple, effective and easily adopted in similar cases."

Tax on Breeding Stock—Book Farming—Crops in Mercer County.

MR. EDITOR:—I notice in a late number of the Farm Journal, that Mr. Samuel Gilleland, of Centre County, holds out the idea, that the levying of a suitable tax on all male stock that are kept to breed from, would be the means of removing our scrubby animals, and bringing in their places, good seed stock of superior breeds. But it appears to me if we had a law to put a fine on all male seed stock found running at large, off the owners premises,—say two dollars for a bull, and one dollar for a boar, or ram,—farmers then would try to keep such stock within their own inclosures.

It would prevent them running the highways, and breaking in the enclosures of farmers that are raising good stock. Now it is almost an impossibility for you to take a cow, or a sow, any distance to where good male seed stock is kept, without meeting with, and beating away mean scrubby animals at every nook and corner. But in regard to levying a tax on all male seed stock, it might not be the means of improving stock, as fast as might be supposed, for this reason, we find too many

farmers in our State, that feel opposed to buying and raising the improved breeds. They tell you it is the feed and not the breed. Well if it would come to taxing them, they would rather pay a tax on one of their own scrubby bulls, than buy a Durham calf, for fifty or a hundred dollars, and the same may be said of improving sheep and swine.

The fact is, our farmers feel so little interest, and pay so little attention to improving their breeds, that it would be of very little consequence to place good stock in their hands; for we often find men that will introduce good breeds in their neighborhood, and in a few years afterwards, you can find little improvement in the stock, owing to bad management, and so little attention paid to their breeding animals. Without care, stock has so many more chances to degenerate by crossing and not breeding from pure bred animals, than the chance to improve. How often do we find it the case, that a farmer who keeps no bull, rather than pay a small trifle to a neighbor that keeps up one, would turn his cow out and let her take her chance in the road. We want something that will do away with our old prejudices, habits and customs, that have followed us down from past generations.

There is too much opposition to what is called book farming. But let a County that takes few or no Agricultural papers, has no Agricultural Society, compare with one that has a large circulation of Agricultural papers, a well conducted Agricultural Society, and you will find a considerable difference in favor of the latter. What we need, brother farmers, is for us to encourage the taking and reading of Agricultural papers, and forming Agricultural Societies. These will get up an interest and a competition, it will be the means of getting and improving stock more than all the laws that could be made. It will give us the history of, and information where good stock can be had. These will make us better judges of, and teach us how to take care of good stock if we had them. The farmers have a far greater opportunity of getting Agricultural papers now than formerly, and only look at the Agricultural Societies, forming in most all the Counties, and also improvements of every kind advancing.

A word on our crops. The wheat is considered rather a small yield, owing to severe freezing last winter, and then the milk weevil or worm coming in the grain while filling. The prospects of spring crops, looked very promising until the drought set in. We have had no rain for several weeks past, but remarkably warm weather, so that our corn crop appears almost a failure. No potatoes, oats very light, meadows and pasture completely withered up; Apples tolerably fair crop; Peaches not plenty.

JAMES A. NELSON.

MERCER COUNTY, Aug. 5th, 1854.

For the Farm Journal.

Ashes, a remedy to prevent Ravages of the Striped Bug.

MR. EDITOR:—I notice the recommendations of coal ashes to drive away the Striped Bug, from melon and other vines. I have applied it with success, a handful of unleached wood ashes to each hill of cucumber, melon, and other vines. The bug left immediately and did not return. I think the application should be made before the Bug makes its appearance, as a few hours are suf-

ficient for them to destroy or greatly injure all your vines; also should be repeated once or twice as a safeguard against their re-appearance. It is a simple remedy if always effectual, I have tried other applications without success.

JOHN HUNTER.

BUCKS COUNTY, PA. August 11th, 1854.

Importation of Eggs.

The English Agricultural Gazette, speaks of the success of an exportation of eggs, of some of the choice breeds of fowls, to this country for hatching, which seems to prove they will bear extensive carriage pretty well. Unfortunately the mode of packing is not given. If eggs can thus be transported to distant points of our own country, it will enable farmers to possess themselves of choice breeds, much cheaper than by buying chickens at the heretofore extravagant prices. The article says that by one of the New York steamers which left Liverpool, at the end of April, a box was sent containing 61 eggs of different selected breeds. They were 12 or 13 days in reaching New York, and on being landed were sent on 80 miles further by steamboat, and placed under hens on the following day. Of the number sent, four were broken on the journey, and of the remainder one half were hatched and alive on the 27th of June. All but one dozen had been brought to Liverpool by railway.

Magnolias.

J. A. Kenrick in a recent letter to Hovey's Horticultural Magazine, says he has a plant, (under date of May 15, now going out of flower) of *Magnolia Sonlangiana*, which has produced this season 1500 to 2000 flowers, and a plant of *Magnolia Conspicua* which has produced at least 3000 flowers.

Warnings Elements of Agriculture.

This is a small work just from the press of Messrs. Appleton & Co. of New York, intended to familiarize the young American Farmer with the ground work of agricultural science, especially adapted to the use of schools; questions on the subject matter of each page, being placed at the bottom for the conveniences of both teacher and scholar. It is an elementary work, written by a pupil of Professor Mapes, and dedicated to him.

The author being a young man, and so recently himself a student, has been able to appreciate the difficulties of beginners, and has relieved his subject of all unnecessary technicalities, by treating it in a simple familiar style adapted to even the most ordinary capacity.

It is just such a work as we should wish to see in every school house and family in the land. It is divided into convenient sections, commencing 1st. with the plant, 2nd. the soil, 3d. manures, 4th. mechanical cultivation, 5th. analysis, the true Practical Farmer, and Explanation of Terms.

PEOPLE'S JOURNAL.—Mr. Beach keeps up the beautiful appearance of his People's Journal as it advances in age. The fourth number of volume second now before us contains no less than fifty-two engravings on various subjects.

Good Butter.

In what consists the art of making good butter? More than half the people who go to market have good reason for considering this one of "the great questions of the day." It is a matter in which the *health* of the community is concerned, and as there is great difficulty in procuring a first rate article, and very great variety in the mode of manufacture, we have a few hints to throw out, particularly as in some of our exchanges we see practices recommended which, in this celebrated dairy district, have long been discarded. We believe it is admitted everywhere that Philadelphia butter is the best in the United States. As a general thing, it is also a fact that nearly her whole supply of fresh pound butter comes from Chester and adjoining counties, so that the *mode of manufacture* here is of some interest. What we have to say about it is entirely practical, the *scientific* rationale (there is a scientific reason for every good operation on the farm) we will leave until another time, or for other pens.

First. Secure good cows. We do not speak now in reference to quantity of yield, but quality. We have owned in our own dairy cows whose cream was *oily*, had no hardness or consistency, and if churned alone would never make good hard butter. Such a cow should be separated at once from the dairy and sold. Her cream, if mixed and churned with the rest, will spoil a whole churning, and prevent that most essential point that is called "coming hard." Some cows will also make *whiter* butter than others on the same pastures. Every dairyman should possess a lactometer, and make particular and frequent examination as to the quality and quantity of the cream from each cow, whether it is thick and of a rich yellow color, or thin, ropy and whitish in appearance. Let not the mistake either be made of supposing every cow which gives a large quantity of milk is a good butter cow. We have had cows which gave not much over half the quantity of others to make more butter. Some cows are adapted for a milk and others for a butter dairy. Every cow in the dairy should be named, regularly registered in a book for the purpose, and exact experiments and trial made with her separately, how much butter she will yield per week, its firmness, color, quality, and also the length of time she will go dry. We are satisfied farmers are often losers by retaining unprofitable cows, which, by comparison with others in a book of this description, would be shown at once.

Second. The quality of the pastures. A cow must have abundance of the right kind of pastures, also pure, clear water, not stagnant, accessible at all times, and salt to go to at her own convenience and pleasure. It is extraordinary how quickly and seriously the quality is affected by what the cow eats. There should be no garlic or other noxious weeds, and no range allowed in the woods to cull briars and bushes. The grasses most valued here by dairymen are our green grass (*poa pratensis*) and white clover. These are natural to this region of country, come up spontaneously in great abundance, and when mixed, as is the case on nearly all our farms, with timothy and some red clover, form just that variety the cow is most fond of, and which helps to impart to our butter its peculiar flavor and high reputation. Rye grass, so far as it has been tried, is much esteemed, but its use is not yet extensive.

Third. Skimming the cream. The length of time cream should stand before being skimmed depends of course on the temperature of the spring house, which varies very much on different farms. The dairy maid regulates her skimming by her own observation and experience, without having any fixed time. She tries to arrive at the point of time when all the cream has risen from the pan, and when to let it remain longer it might become mouldy or "fousty." In a cold

spring house this latter will take place sometimes before all the cream has come to the surface, and in such cases it is not uncommon to put a small quantity of sour milk in each pan, when it is first set away, to induce a more rapid acidity, without which all the cream will not be obtained. It is a nice point to determine exactly the right time for skimming, no rule can be given for all situations, but without good cream there can be no good butter. It is very common to let a pan of milk stand for three milkings during the summer season before it is disturbed, but this cannot be recommended as a general rule, circumstances making it more or less. The cream when skimmed each day is put into deep tin cream pots (about eighteen inches deep), which are placed in water up to the rim in a hole in the spring house excavated for the purpose. This is to keep down the temperature and prevent fermentation. It is also stirred round every morning, or twice a day, thoroughly and carefully.

Fourth. Churning. During the summer season, in all the best dairies, churning is done twice a week. Large revolving horse power or water power churns are used. The period for the churning depends on the temperature of the cream, weather and other causes. More accuracy might be attained by the use of thermometers, which are not so common on dairy farms as they ought to be. It is, however, all important that the butter should "come hard." Without this no manipulation afterwards, however skillful, can make a first rate saleable article. When the indications are that the butter is about coming, or beginning to break as the phrase is, a lump of ice is thrown in, or some very cold water, and a few additional revolutions of the churn made, which gathers it together into a hard mass, so as to be taken out in lumps, which are placed on the butter table; the quantity of fine salt which the experience of the dairyman has proved to be right applied, and the buttermilk worked out with the lever and paddle. It is then set away to cool, generally in a tin vessel, which is plunged in the water.

Fifth. Working and Printing. Some three to five hours after the first working, it is again placed on the table for the second and final working. The lever and paddle is again used, it is thoroughly turned over, some eight to ten pounds at a time, and, with the aid of a fine sponge, wrapped in a cloth, or fine cloth alone, all the remaining buttermilk and water is dried out. After this it is weighed, printed in pound and half pounds, and placed on the brick floor of the spring house. Washing the butter, so highly recommended in some places, is generally dispensed with here and considered injurious not only to the flavor of the butter, but to its long keeping. The whole process from first to last, except the taking out of the churn, is accomplished without using the bare hand, except it may be slightly in weighing.

White muslin rags are wrapped around the prints, and they are placed on shelves in butter tubs, for carrying to market. In the centre of these shelves is placed a tin tube, for holding ice, to keep the butter hard; others break ice in lumps and distribute it through the tub. A woolen covering is wrapped around the tub to keep out the heat, and it arrives in market in as good condition as when it left the spring house. Some farmers who have established their reputation for butter, never sell either summer or winter under 37½ cts. per pound, and often in the winter get 50 cts.

First Milk of Cows.

On the question whether the first milk of cows is poisonous to swine, Dr. Gibbs, of Perry, Ohio, writes to the Country Gentleman, that its injurious effects are owing to its containing, in common with that of many other animals, *Colostrum*, "the properties of which are not fully known, but it is supposed to be a cathartic provided by nature and well

adapted to the wants of the offspring, removing the viscid contents of the intestinal canal." The first milk should not be given in large quantities to any animal, as it will induce diarrhoea, colic, &c., and perhaps cause death.—*Wool Grower.*

The State Fair.

The grounds for the State Fair are being rapidly prepared for the reception of articles intended for exhibition. The enclosure is already completed, and the energetic secretary of the State Society, R. J. Walker, Esq., is pushing forward every department of the arrangements with a success which leaves no room to doubt that every feature necessary for the protection of articles, or the safety and comfort of animals, will be completed before the arrival of the time appointed for the display. Persons desiring to exhibit choice stock, or articles of any and every description, need be under no apprehensions for a want of every proper and desirable accommodation.

The location of the fair grounds, as we have heretofore remarked, seems in every way adapted to the purpose intended. Lying immediately west of the Schuylkill, above Market street bridge, within the incorporated limits of the metropolis of the state, and almost within a stone's throw of the ancient city, from whence radiate the great arteries of trade and travel to all parts of the country, it possesses every advantage to be derived from cheap, easy and quick access, while the abundant hotel accommodations of the city will preclude all fear of a dearth of "bed and board." The grounds, too, are eminently adapted for the display, containing a noble grove of shade trees, an abundant supply of water, and a surface all that could be desired.

The only thing wanting to make the approaching fair not only surpass all its predecessors, but equal any one ever held in this country, is a determination on the part of the farmers of Pennsylvania that *it shall be so*.

There is no portion of the United States, east of the Alleghenies, of equal extent, that can be compared in agricultural wealth to the counties of Pennsylvania lying southeast of the Blue mountains. Within this district will be found the great Kittatinny valley, from five to twenty miles in width, which, under various local names, extends from the Maryland line to the Delaware river, through Franklin, Cumberland, Dauphin, Lebanon, Berks, Lehigh and Northampton counties; here too are the far famed Pequea, Conestoga and Chester valleys, with their extensions under other names, while a great portion of the remainder is of almost equal productiveness. Nearly every portion of the district (in itself sufficient to furnish the material of a great State Fair,) is of easy access by canal or railroad to the exhibition grounds, and we shall be disappointed if its occupants do not show by the excellency, quantity and variety of their display, its title to the reputation it has obtained. Persons will be in attendance from all parts of the United States, and we trust that these counties, so rich in all the elements of a great exhibition, will not let the occasion pass without a determined effort to sustain the agricultural reputation of the State.

While we thus expect much from the southeast, we turn with pride to other portions of the State. Union, Northumberland, Montour, Columbia, Lycoming and Luzerne counties, lying contiguous to the North and West Branch canals; and Perry, Juniata, Mifflin, Centre, Blair, Cambria, Indiana, Westmoreland, Armstrong, Butler and Allegheny, on or near the Pennsylvania railroad and the main line; Fayette and Washington on the Monongahela, and Beaver on the Ohio, are one and all within easy access by canal or railroad to the Fair. Some of these counties contain large tracts of

unsurpassed fertility, while all excel in one or more particulars. The high spirited farmers of these counties, we trust, will not lose sight of their advantages, while we know some of them fear no competition from any quarter. From counties more remote from public thoroughfares leading to Philadelphia we cannot expect so much, but we shall be disappointed if Susquehanna, Bradford, Mercer, Erie and others, do not make themselves felt.

It is a very common thing for farmers, while certain of the superior excellence of their productions, to think that somebody a great way off has better, and when they go to the fair, and see the best there, to think and remark, "I had better than that at home. I wish I had brought it." Avoid this, we pray, by bringing a sample of every thing which is superior.

The implement department we are confident will be complete. Manufacturers are too wide awake, to fail to show on such occasions whatever will bear the test of examination and comparison. Every agricultural implement of merit, manufactured in the United States, will doubtless be at the Fair. This circumstance will be of great interest to the enterprising farmer, who wishes to examine new labor saving machinery and improved implements, and will in itself repay a journey from the remotest distance in the state.

In conclusion we may add that we trust that every farmer in the State who desires the advancement of the farming interest, every one who wishes to sustain and enhance the reputation of the State, and having aught that is excellent in stock or produce, will bring it to the exhibition, and there mingle with the hundred thousand other farmers in attendance. The fares for travel will in general be but half price, and he must be a wise man indeed, or a fool, who cannot get the worth of his money by what he will learn by observation of the implements, stock, &c., &c., on exhibition, and by contact with the best farmers in the State.

Pennsylvania Horticultural Society.

The monthly stated meeting of this Society was held last evening in Sansom Street Hall. The President in the chair. The display was far better than usual for the month of August, especially so in Green-house Plants. A fine specimen of the *Buonapartea serratifolia* from Mr. Cope's collection, was an object of much attraction; it is the first time that a plant of this species has bloomed in this country; it was full ten feet in height, its flowerstem bearing innumerable greenish flowers, was more than half that altitude. Among Mr. Buist's handsome plants was a beautiful specimen of the *Clerodendron Kampherii*, for the first time shown; also, the *Lobelia St. Clair*, not before seen on the Society's tables. Mr. Fahnstock's gardener did himself much credit with his profusely flowering plants of the choicest varieties. Mr. Knorr's gardener brought a collection of select kinds, all well grown. From Mr. Dundas's grounds were large and fine specimens of established kinds. A table of richly flowering Balsams, Asters, Coxeombs, and other annuals was shown by John Lambert's gardener. The Baskets of cut flowers and Bouquets were most tastefully arranged. In the Fruit department were very fine Grapes, shown by John Riley, gardener at the Insane Asylum; by Wm. Grassie, gardener to C. P. Fox; by A. J. Smith, gardener at Eden Hall; Alex. Burnett, gardener to H. P. McKean and William Johns. Fine Peaches, Plums and Pears came from Isaac B. Baxter's garden. The delicious Stanwick Nectarine, from Mr. Cope's, was for the first time tested before the Society. Pears were exhibited by Mrs. Markau's gardener and Geo. W. Earl.

Vegetables—A very extensive display was made by A. L. Felton.

The following were the premiums awarded:

By the Committee on Plants and Flowers.—*Collection of 12 Plants in pots*—For the best to Thomas Robertson, gardener to B. A. Fahnestock; for the second best to Robert Buist; for the third best to James Kent. *Specimen Plant*—For the best, to the same; for the second best, to John Pollock, gardener to James Dundas. *New Plants*—A premium of five dollars to Jerome Graff, gardener to C. Cope, for a flowering specimen of *Buonapartea Serratifolia*; and two dollars to Robert Buist, for the *Cleridendron Kamearii*. *Basket*—For the best, to Jas. Kent, for the second best to Chas. Miller. *Of Indigenous Flowers*—For the best to Meehan & Saunders. *Bouquets*—One pair—For the best, to Charles Miller; for the second best, to Jerome Graff. *Special Premiums*—One dollar to John Pollock, gardener to James Dundas, for orchids, &c; one dollar to J. Graff, for a design of cut flowers, and two dollars to John Lambert's gardener, for a collection of annuals, balsams, coccinellids and asters.

By the Committee on Fruits—*Grapes*—three bunches of a black variety, to James Riley, gardener to Insane Asylum, for Black Hamburg; for the second best to William Grassie, gardener to C. P. Fox, for the same variety. *Of a White variety*—For the best, to Anthony J. Smith, Eden Hall, for White Syrian, and for second best to the same for Frontignae. *Plums*—For the best, the Runie Claude, and for the second best, the Abriocotte, to Isaac B. Baxter. *Peaches*—For the best, the Jane, to the same. *Pears*—For the best, to the same.

Special Premiums.—One dollar each, to Jerome Graff, gardener to C. Cope, for the Stanwick Nectarino; to John Riley, for the West's St. Peter's Grape; to William Johns, for very fine Tokay Grapes, and to Mrs. Markau's gardener, for the Moyamensing Pear.

The Committee allude to a fine specimen of the Lawton Blackberry, received from the original propagator, William Lawton, of New Rochelle, N. Y.; some of them weighing 86 grains without the stem.

By the Committee on Vegetables—*Display*—for the best by a market gardener, to A. L. Felton.

The Committee of Finance reported that the Treasurer's semi-annual statement was correct.

The Recording Secretary reported the estimated losses, sustained by the Society at the fire at the Philadelphia Museum building, on the 5th of July.

The Committee, to whom was referred the subject of an autumnal Exhibition, reported a recommendation, after mature deliberation, to intermit, for this season, the usual grand exhibition, and solicit all contributors to send their Horticultural products to the great State Fair, to be held at Powelton, on the 26th September, which was approved of by the Society; and a Committee of 12 members were ordered to be appointed to assist a similar Committee from the State Agricultural Society in conducting the Horticultural department.

On motion, ordered that fifteen delegates be appointed to attend the session of the American Pomological Society, to meet at Boston on the 13th September next.

Two gentlemen were elected resident members of the Society.

Lancaster County Agricultural Society.

MR. DARLINGTON:—The "Lancaster County Agricultural Society" will hold its *first* annual exhibition at Columbia, on the 13th, 14th and 15th days of September. Though the Society has been in existence some five or six years it has thus far made "no noise in the world," the managers having heretofore deemed it inexpedient to hold exhibitions; but now from the great and increasing favor with which such fairs are viewed by all classes of

the community, and general success attending them, the managers have come to the conclusion that now is the proper time to make a display. If the managers are properly seconded in their efforts, of which they have every assurance, the "rest of mankind" will see that old Lancaster county when once fully aroused will not lag far behind her sister counties in the march of improvement of agriculture and mechanics—like her "Conestoga teams" not "fast but sure."

Columbia has been selected as the place of holding the exhibition on account of its convenience to the various railroads, its many large and well conducted hotels, the liberality of the inhabitants, &c.

The officers of the Society are:

President—Benjamin Herr, Esq.

Vice Presidents—John Miller, J. B. Garber.

Managers—Hon. John Strohm, Benj. Eshleman, J. Frantz, J. Hartman Hershey, J. H. Hershey, Levi P. Beist, Abraham Peters.

Secretary—Eshleman.

Corresponding Secretary—Hon. A. L. Hays.

Librarian—J. Myers,

G.

Bucks County Agricultural Exhibition.

While preparing our forms for the foundry we received a "poster" containing a schedule of premiums, instructions to committees, regulations, and a "general invitation to the citizens of Bucks and neighboring counties, and of New Jersey, to attend the exhibition and bring with them articles of their own growth and production." The prizes are open to competition for all who choose to attend without regard to locality. This liberal course, now being followed by several counties, is worthy of the intelligent farmers of Bucks, and we trust it will meet a generous return. The schedule is very extensive, very general and very liberal. For further information see poster, or address John S. Brown, Esq., Secretary. The officers of the Society are:

President—James C. Cornell.

Vice Presidents—Wm. Stavelly, Hector C. Ivines, Jolly Longshore and Jacob H. Rogers.

Corresponding Secretary—Thomas Warner.

Recording Secretary—John S. Brown.

Treasurer—Jacob Eastburn.

Union County Agricultural Society.

The 2d annual exhibition of this society, will be held at Lewisburg, Oct. 5th and 6th. A premium list is published, embracing stock of all kinds of Agricultural produce and machinery, and a list of useful miscellaneous articles. Among other premiums are the following, which are calculated to be highly useful.

Any new and useful improvement in any farm machine, or implement, from \$1 to \$5, according to its value, at the discretion of the Committee.

Any new and useful improvement in any household machine, implement or article of furniture calculated to lighten the labor of females, from \$1 to \$5.

MANURE.

Ten 4 horse loads compost Manures, best quality, prepared at least expense, by any new process, a statement in writing to be given of materials used, mode of preparation, expense, &c.

FARM ACCOUNTS.

Best account of Farm Operations for the season, giving the management of stock, crops, and improvement in fencing, plowing, seeding, cultivating and harvesting crops, together with expenses and income of the farm, to be presented to the Committee on Crops on or before the first Monday in January next, and premium awarded by them.

Greatest profits from $\frac{1}{2}$ acre of land in any crop or crops, full statement in writing of expense of labor, manure, &c., with true value of crop, certified under oath.

The officers of the Union County Society are:

President, Jacob Gundy, East Buffalo:

Cor. Secretary, Richard V. B. Lincoln, Hartley:

Rec. Secretary, O. N. Worden, Lewisburg:

Treasurer, Robert H. Laird, East Buffalo:

Librarian, Samuel Werick, New Berlin:

Executive Committee, Jas. P. Ross, Isaac Slenker, Henry W. Snyder, And 20 Vice Presidents.

For the Farm Journal.

Westmoreland County Agricultural Society.

MR. EDITOR—DEAR SIR:—The Westmoreland County, Agricultural Society, was organized on the 18th day of February, 1853, by appointing the following officers:

President, HON. WM. JACK,

Vice President, ALEXANDER CUBBERTSON,

Rec. Secretary, FRED. J. COPE.

Treasurer, JOHN MORRISON.

At an adjourned meeting of the Society, held on the 25th, of the same month, a constitution was reported and adopted, and a large number of persons from all parts of the County, gave in their names as members of the Society, but owing to the demise of both the President and Vice President, nothing further was done until the 23d of November, when, at the call of the Secretary, a meeting was held at the Court House, in Greensburgh, and the Society was re-organized, by electing officers, and adopting the old constitution. Our Fair will be held at Greensburgh, on the 11th, 12th, and 13th days of October, which time does not interfere with that of any other Fair in Western Pennsylvania.

We have offered a better list of premiums, than any other Society in the State did last year, at least so far, as they have been reported in the transactions of the State Agricultural Society, amounting to nearly five hundred dollars, and the several committees have power to award discretionary premiums on all meritorious articles not enumerated in the premium list.

The following gentlemen, have been appointed as officers of the society, for the present year.

President, Maj. F. J. COPE. Vice Presidents, A. OVERHOLT, Gen. C. P. WARKLE, Col. PAUL BRINKER, A. FISHER, C. RAMSEY, Esq., JOHN POLLOCK, JAS. POWER, W. TAYLOR, and SAMUEL WILLER. Rec. Secretary, JOHN W. FURNEY, Greensburg. Cor. Secretary, J. H. HACKE, Greensburgh. Treasurer JOHN McCLELLAND, Greensburgh.

Board of Managers, John C. Rankin, H. H. Null, James Agnew, John Eichan, Col. M. M. Dick, Jacob Matthias, E. F. Housman, John McCullough, Matthew Shields, John Andrew, Jas. Dickie, John Boyd, Jr., Maj. Jas.

Paul, Jos. Jack, Joshua Anderson, Col. Israel Painter, and Wm. Pool.

I shall report to you, our success and the state of our finances, as soon after the fair as convenient.

NEAR GREENSBURG, AUG. 7. 1854.

J. E.

Chester County Agricultural Society.

The exhibition of this Society, is to take place on the 8th and 9th of September, in Everhart's Grove, in West Chester. A liberal and extensive premium list is published, and as Chester County is generally admitted to contain more good stock than any other county in the State, a very gratifying display may be anticipated.

The Chester County Horticultural Society will hold its exhibition, commencing one day previous, and continuing till the evening of the 9th.

Perry County Society.

Perry County Exhibition will be held on the 18th 19th and 20th of October.

State Agricultural Fairs.

These great gatherings take place this fall in the succeeding order:

Name.	Where held.	Date.
Illinois,	Springfield,	Sept. 12-15
Kentucky,	Lexington,	Sept. 12-15
Lower Canada,	Quebec,	Sept. 12-16
Vermont,	Brattleborough,	Sept. 13-15
Ohio,	Newark,	Sept. 16-22
Michigan,	Detroit,	Sept. 26-29
Pennsylvania,	Philadelphia,	Sept. 26-29
Missouri,	Boonville,	Oct. 2-6
New York,	New York,	Oct. 3-6
New Hampshire,,	Oct. 3-6
Maryland,	Baltimore,	Oct. 3-6
Indiana,	Madison,	Oct. 4-7
Wisconsin,	Watertown,	Oct. 4-7
Connecticut,	New Haven,	Oct. 10-13
North Carolina,	Raleigh,	Oct. 17-20
Georgia,	Augusta,	Oct. 23-26
Iowa,	Fairfield,	Oct. 25
National Cattle Show, ..	Springfield, Ohio,	Oct. 25-27

From this list it appears that three great commercial cities, Philadelphia, Baltimore and New York, will each be the scene of a State Fair, almost at the same time. Those at Baltimore and New York will be exactly on the same days, the 3d, 4th, 5th and 6th of October, while that at Philadelphia will be a few days in advance. Those citizens of Philadelphia who are expecting to reap great benefit from our own exhibition, will see from this that they will have rivals to contend with. No effort, therefore, should be spared to make the demonstration there a great one, and nothing that can be done to render it attractive and useful, and to call to it the attention of a wide circle of country should be neglected.

Domestic Recipe.

PRESERVING FRUIT WITHOUT SUGAR OR VINEGAR.—Those of our lady friends who would like to treat their lords to a green peach pie, or a dish of nicely stewed tomatoes, or other choice fruits or vegetables, in the winter, just as though pulled yesterday, may do so by at-

tending to the directions given below. The whole secret consists in this: Place the fruit in bottles or cans, expel the air, hermetically seal, and deposit in a cool cellar, vault, or other cool place, until wanted for use. If, for example, the article to be preserved be peaches, select fair sound ones, pare, cut as for pies, fill the bottles, set these in boiling water when in a few minutes the air will be expelled from them, take them out, cork tightly, and seal thoroughly with sealing wax, or common rosin will answer. Observe as little delay after commencing to pare as possible as the exposure is deleterious. Some prefer stewing their peaches slightly, as when a number of bottles are to be put up it expedites the operation. The same may be said as to blackberries, raspberries, &c. If the article to be preserved be tomatoes, stew and season as for the table, using no thickening, cook middling dry, bottle and seal as above. Thus any fruit or vegetable may be preserved, and when the air is properly excluded and the bottles kept in a cool place, their contents will be as good when opened six or nine months hence as to-day.

Some persons use tin cans, having the lids soldered on and the air expelled through a puncture in the top, which is closed by a single drop of solder. But it should be remembered that it is best not to put up acid fruit or vegetables in this way, as the corroded metal is sometimes injurious to health. The glass blowers make quart and half gallon bottles with very wide mouths on purpose for preserving. These cost from a six pence to a shilling each. A stock with care will last forever.

Exhibition Intermitted.

The Philadelphia Horticultural Society have resolved to dispense with their usual annual exhibition for this season, and recommend all their contributors to send to the exhibition of the Pennsylvania Agricultural Society at Powelton. If the Franklin Institute adopt the same course, as has been proposed, it will still further increase the interest and attractions of the occasion.

For the Farm Journal.

Seed Corn.

There are but few farmers who fairly take into consideration the extent to which their crops are affected by the quality of the seed. "Like begets like," "as we sow so we reap," are old aphorisms, partaking of both sound and practical philosophy. If we sow imperfect seed we may reasonably expect to reap imperfection, though with a decrease in quality in a just ratio from present organic defects, whilst if we sow good seed we may expect to reap the same with an increase in quality in the same ratio as the deterioration of the former.

In order to secure good seed corn and improve the quality, quantity and time of ripening, try the following: When your corn is ripening go through the field, and pluck from the stalks such ears as are the earliest, being already ripe, having in view those bearing the largest and most ears to the stalk. Having furnished yourself with a sufficient quantity for seed, place it in some dry situation that the cob may become perfectly dry, as that will keep it from freezing in the winter, which of a certainty, if allowed to do, will destroy its power of germinating. In this situation it may be allowed to remain

until planting time, when, on removing the husk, it will be found in the most perfect state of preservation, and seldom, if ever, fail in the germ.

I have the experience of a practical farmer, who has followed a similar system with regard to the selection of his seed for a number of years. He affirms that besides a vast improvement in the quality, he finds it as difficult now to select stalks in his field bearing less than two or three ears, as it was at first to find them bearing more than one.

JESSE GORSUCH.

Huntingdon, Pa., August 13, 1854.

Bean's Mowing Machine.

J. L. DARLINGTON, Esq.—Dear Sir:—As you requested those who used reaping and mowing machines the present season, to forward accounts of how they performed, so that the readers of the Journal may draw their own conclusion as to which is the best, and having seen in the August number a report which is not altogether correct, and having used one of the machines mentioned, I thought it would not be presuming too much to correct the statement.

The Bucks county papers containing an account of the trial at Mr. Stavelly's, stated that Bean's improved mower was on the ground too late to compete for the premium, and, therefore, was excluded from competition on that account; but I see in the Journal that you have been informed it was entered upon equal terms with the rest, and, judging from the information in the Journal, it would seem to be among the machines not noticed particularly by the committee. Having bought one of Bean's mowers and given it a fair trial in light and heavy grass this season, I think it is among the best, if not the very best, in use.

Mr. Bean got this machine up late this season, and had not time to finish but twenty-three, which were all sold and but one returned, and that was because the parties had not a team sufficiently strong to draw it. I had been wanting to buy one for the last three years, and have examined many different kinds, and I think Bean's the simplest and less complicated of any, at the same time sufficiently strong and free from side draft. Having used mine to mow seventy acres, drawn principally by a pair of mules, and hired it to some of my neighbors to mow with, one of whom told me that it was not harder for two horses than a hoe harrow was for one, I therefore feel safe in recommending it to the readers of the Journal as a good mower—one that there is no more risk in buying than a common fanning mill. A number of my neighbors have used other kinds—some say they work well and others say the same kinds will not work at all, but Bean's improved gives universal satisfaction. They are manufactured by Robert Beans, Warminster township, Bucks county, Pa.

August, 1854.

LEWIS R. WILLARD.

For the Farm Journal.

Hussey's Reaper and Mower.

MR. EDITOR:—Induced by your suggestion in the August number of the Journal, I send you my experience in the use of a reaping and mowing machine:

Previous to the haying and harvesting of 1853, I purchased (conditionally that it should cut grass satisfac-

torily,) from Giddes, Marsh & Co., manufacturers at Lewisburg, Union county, Pa., "Hussey's Reaper and Mower." I used it to cut my wheat, barley and oats. No machine could have done its work better. I cut and put up fourteen acres of heavy wheat in ten hours, and the next day finished the field, containing eighteen acres, and cut five acres of barley. In cutting oats and barley I had two men besides the driver, using a second platform that the bundles might be hooked off at the side, they requiring to remain a few days before being bound. I failed, however, in my attempt to cut grass. The failure, I am now satisfied, was no fault in the machine, but in the man who had charge of it. This season the manufacturers having sold a number of these machines in this (Wyoming) valley, sent with them men to put them in working order. The result was that in ten minutes after my machine had been put in the grass, the same man who had failed last year worked it to perfection. I cut with it twenty acres of heavy timothy and timothy and red top, averaging one acre per hour, doing the work much better than it could have been done with the scythe. A part of my grass was much tangled and lodged, and covered with a small running vine usually found in timothy meadows along the banks of the Susquehanna.

The mowing and spreading of my grass, which gave an average of two and a half tons to the acre, cost me about thirty-seven and a half cents per acre. Some of my neighbors paid three dollars per acre for scythe mowing. Very respectfully yours,

E. W. STURDEVANT.

Firwood, near Wilkesbarre, Aug. 14, 1854.

For the Farm Journal.

Wire Fence.

Will some of the readers or correspondents of the Journal be so kind as to give their experience in regard to building wire fence, the best manner of constructing it, cheapness and durability-considered, cost per perch, &c. If so, I will be under quite an obligation, and no doubt others will be equally well pleased to see the subject treated in the Journal.

J. GORSUCH.

Huntingdon, Pa., Aug. 13th, 1854.

For the Farm Journal.

Manures---Be Frugal.

Mn. EDITOR:--Now that grain of all kinds is bringing a price quite remunerative to the farmer, and as these high prices are likely to continue, owing to the unsettled condition of Europe, farmers have been desirous of increasing their crops to the greatest extent; consequently large crops have been put out by many, who will not have the means of manuring well the grounds now under tillage for ensuing crops, without the aid of Guano or other fertilizers;--as no kind of grain can be raised successfully without the aid of manure, I will give my plan of manuring two acres annually with fourteen pigs.

The pen is of boards, raised about two and a half feet from the ground; the floor is made close, and standing from the trough so as to drain off all excrements, &c. On the side of the pen opposite the trough is a hole dug capable of holding six or eight cart loads of earth, this being filled with ditch banks, headlands &c., is left remain till it becomes thoroughly saturated with drainings from the pen; when it is hauled

away into a heap, or for use, and the hole again filled up with similar earths; in this manner the liquid as well as all other matter will be saved, and be judiciously applied, which otherwise would be lost. Another beneficial effect is that it prevents the accumulation of matter which if not removed for a long time, becomes very offensive to the olfactory organs.

In fact in this as well as in all other manures, farmers cannot be too careful, for by spending a few dollars in protecting the manures of their farms, and a proper attention to composting, they will be amply repaid by an increase of their crops and seldom be under the necessity of purchasing Guano and other fertilizers.

A.

Lionville, Chester co., Aug. 1854.

Mowing and Reaping Machine.

[We find the following, in a Jersey paper, which refers to a county, Somerset in New Jersey, not in Pennsylvania. Dunham's machine, we never before heard of.

Can any of our readers inform us what it is and where made?]

It is our opinion that the Dunham's is the best combined Mower and Reaper. That it does its work satisfactorily, both in Mowing and Reaping; and is entitled to the premium offered by the society.

We ask permission also to state that as a *Reaper alone*, we think McCormick's the best machine. Its work being done in a surperior manner, and in the shortest time.

As a *Mower alone*, Ketchum's machine does its work remarkably well, and easily kept in order; a valuable consideration to the farmer.

Very respectfully,

TUNISA HUFF,
D. P. KINYON,
JOHN C. VAN LIEW,

} Com.

July 6, 1854.

Massachusetts Horticultural Society.

The Massachusetts Horticultural Society has recently adopted the report of a committee which states that the prizes awarded to Messrs. Hovey & Co., of Boston, for the Boston Pear and Hovey Cherry were obtained by improper means, and recommending the amendment of the laws so as to prevent such abuses in future. We are surprised that this matter should have been allowed to rest until the fruits have been widely disseminated upon the strength of the prizes and committee reports. Such proceedings on the part of the most influential society in America, can hardly fail to shake the confidence of the community in all Horticultural Societies. [Horticulturist.

Mules vs. Horses.

The following estimate in the difference of expense of keeping Mules and Horses, is made by *The Southern Planter*, which from our acquaintance with these animals, we can endorse:

Ten horses will consume each 12 bbls. of corn per annum, say for twenty years, which is equal to 2,400 bbls., worth on an average, \$2.50 per barrel.....	\$6,000
Shoeing ten horses will cost \$30 per annum, (\$3 each or more, which we have to pay), say for twenty years,	600

Cost of feeding on corn and shoeing ten horses for twenty years,.....	\$6,600
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Ten mules will consume each 6bbls. of corn per annum, say for twenty years, which is equal to 1,200 bbls., worth on an average, \$2.50 per bushel--no expense of shoeing.....	\$3,000
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Amount saved in twenty years by mules.....	\$3,600
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According to this estimate we save \$3,600 in twenty years, or about \$200 per annum, by having mules instead of horses; and then the mules are much longer-lived and less liable to disease.

Lubricating Substances.

Lubricating substances, as oil, lard, and tallow, applied to rubbing surfaces, greatly lessen the amount of friction, partly by filling the minute cavities, and partly by separating the surfaces. In ordinary cases, or where the machinery is simple, these substances are best for this purposes which keep their places best. Finely powdered black lead, mixed with lard, is for this reason better for greasing carriage wheels than some other applications. Drying oils, as linseed, soon become stiff by drying and are of little service. Olive oil, on the contrary, and some animal oils, which scarcely dry at all, are generally preferred. To obtain the full benefit of oil, the application must be frequent.

According to the experiments with great care by Morin, at Paris, the friction of wooden surfaces on wooden surfaces is from one-quarter to one-half the force applied; and the friction of metals on metals, one fifth to one-seventh—varying in both cases with kinds used.—Wood on wood was diminished by lard to about one-fifth to one-seventh of what it was before; and the friction of metal on metal was diminished to about half what it was before. To lessen the friction of wood surfaces, lard is better than tallow by about one-eighth or one-seventh; and tallow is better than dry soap about as two is to one.—For cast iron on cast iron polished, the friction with the different lubricating substances is as follows:

Water.....	31
Soap.....	20
Tallow.....	10
Lard.....	7
Olive oil.....	6
Lard and black-lead.....	5

When bronze rubs on rough iron, the friction with lard and black-lead is rather more than with tallow, and about one-fifth more than with olive oil. With steel on bronze, the friction with tallow and with olive oil is about one seventh less than lard and black-lead. As a general rule, there is least friction with lard when hard wood rubs on wood, or metal on metal—being about the same in each of all these instances.

In simple cases, as with carts and wagons, where the friction at the axle is but a small portion of the resistance,* a slight variation in the effects in the lubricating substance is of less importance than retaining its place. In more complex machinery, as horse power for threshing machines, friction becomes a very large item, unless the parts are well lubricated with the best materials.

Leather and hemp bands, when used on drums for wheel work, or for driving machinery, should possess as much friction as possible to prevent slipping, thus avoiding the necessity of tightening them so much as to increase the friction of the axles. Wood with a rough surface has one-half more friction than when worn smooth; hence moistening and rasping small drums may be useful. Facing with buff leather or with coarse thick cloth also accomplishes a useful purpose. It often happens that wetting or oiling bands will prevent slipping, by keeping the surfaces soft, and causing them to fit more closely the rough surface of the drum.—*Thomas' Farm Implements.*

*If the friction at the axle be one-twentieth of the force, and the diameter of the wheels ten times as great as the diameter of the axles, at the axles will be reduced to one twelfth of a tenth, or one hundred and twentieth part of the force according to the law of velocities as applied to the wheel and axle.

New-Rochelle Blackberry.

Friday of last week, we spent at Norwalk, Ct, in visiting the grounds of two or three gentlemen. We first examined more particularly the New-Rochelle Blackberry, (called also the Lawton Blackberry,) of which Messrs. Geo. Seymour & Co. have a considerable number of plants now loaded with fruit. They have fruited this variety for seven years, and we think its value may now be considered so far settled, as to allow an expression of opinion upon its merits.

It is evidently quite different from the common wild varieties, and also different from any that have been cultivated. It is much larger, more uniform in size, and more prolific than other varieties; it has less seeds, a good flavor, and is a good keeper. It is also thought to be better adapted to poor soils. On this point we cannot speak as positively from our own observation. One thing seems certain that it has not

depreciated by cultivation during eight or ten years.

As to its size, it will surprise most persons who see it for the first time. At Norwalk we saw several stalks bearing five to eight quarts each. We tried some that had been gathered over 40 hours, and found the flavor quite good. A quart of them numbered 111 berries. We picked a quart from vines which has received no manure for two years past, and from which the largest had just been selected from the New-Haven Horticultural Society, and found that 72 of them filled a quart measure.

The vines grow quite large—many of them over an inch in diameter, and the fruit hangs in thick clusters—in size more like very large Green Gage plums, than like the ordinary black berry. The flavor is not apparently diminished by its large size, and the few seeds is not its least recommendation. We think this berry a valuable acquisition to our domestic fruits, and worthy of a place in every garden. We have watched this blackberry in several locations for some times past, and are thus particular in describing it, in order to answer the numerous inquiries we are continually receiving in regard to it.

In transplanting it, Messrs. Seymour & Co., recommended selecting plants from two or three feet high, and to set them about the first of November or middle of April, in this latitude. They may be put out on almost any ordinary soil at a distance of four to six feet. When setting cut it is desirable to cut off the vine at four to six inches from the ground. For field culture, they recommended preparing the ground by plowing in an ordinary coating of barn-yard manure. Two or three experiments with guano, dug in around the hill, have been quite successful.

To Preserve young Chickens.

Keep them in coops, raised some inches from the ground, until they are six or eight weeks old—if they drop after this, the next hour of warm sunshine will bring them up again. A correspondent says the last time he tried to raise them on the ground, he lost 59 out of 60; he has often raised 60 or 70 at a time since, without losing one, simply by cooping them away from the ground until six weeks old.

Large Yield of Wool.

Thomas Brown, Esq.—*Dear Sir:* We bought from J. D. Paterson, of Chataque Co. N. Y. an imported French Ewe in 1850; her first lamb was a buck. After breeding him, we sold him to Messrs. Sheepneck and Breckley, of Fayette Co., Pa.; they cut from him at 19 months old, 31½ lbs of fine, clean, unwashed wool; and just one year and two days from the first shearing they took from him 25½ lbs, which last fleece they sold for \$17, in Philadelphia, making in all 56½ lbs of wool from one sheep at 2½ years old; the weight of the carcass about 200 lbs. can any one in the United States beat that; if there is any that can do it, we should like to hear of it.

Our clip of French wool, the present season, brought clear money, 45 cents and a fraction per pound, in Philadelphia. Whole clip averaging over 5½ lbs clean washed wool. P. Brady.

The New Wheat Crop.

There is much anxiety and speculation as to how the incoming wheat crop will turn out. Reports are exceedingly various. In some sections of the country the crop is very good, in others entirely ruined. Throughout the best wheat district of Ohio there will be nearly an entire failure. From Seneca, through Richland, Wayne, Knox and Stark, the great wheat belt of Ohio, the red weevil, or wheat midge, has made pretty thorough work upon all but the Mediterranean and a few very early fields; indeed the Mediterranean wheat has suffered severely in many places. Similar reports reach us from some of the east, and south-west counties, as well as from central Indiana and parts of Illinois.

On the contrary we have favorable reports from almost the entire south-east, extending as far as Georgia, and also from Wisconsin and other western States.

Fair grounds.

The Kentucky Agricultural and Mechanical Association at Lexington, have contracted with an architect of the city, for the erection of a stupendous *Amphitheatre* and other improvements, on their Fair grounds. The improvements will involve an outlay of some twelve or fifteen thousand dollars, and are to be completed in time for the annual exhibition in September.

Cultivation of Rye.

Next to Indian corn, no cereal is of so much importance to this section of the country as rye. It differs from wheat in its adaptation to soil. The former succeeds best on a soil which contains so much alumni as to give it considerable tenacity. The latter seldom does well on such a soil, but flourishes on those of a more silicious and porous character. It is well adapted to the light soils of New England, while on the slate loams of the valley of the Hudson and other similar localities it is quite at home. The value of the crop in this neighborhood is not fully appreciated. The great requisite in regard to its culture is that the soil and subsoil be properly drained. It cannot bear cold water about its roots. The crop can be cheaply raised. It requires but little preparation of the soil, though the yield is in proportion to the goodness of the land and the favorableness of the season—ranging from five to forty bushels to the acre. It is sometimes effected by blight or mildew, but less frequently than wheat, and on the whole is comparatively a sure crop.

The value of rye per bushel does not differ much in the eastern markets from that of northern corn. The straw constitutes an important item in the advantages of its cultivation. It is worth in this market an average of \$15 per ton. A fair crop, say twenty bushels to the acre, will give a ton of straw to the acre. We are informed that two tons to the acre have been obtained. The straw is used here chiefly as bedding for horses; but among the Germans of Pennsylvania, who generally understand the economical management of horses, the grain is ground and the straw cut, and the two mixed together forms the principal food of these noble teams which always attract the attention of strangers. The Germans, too, make great use of rye in feeding themselves. They are fond of the bread, and say it is *stronger* than that from wheat. But good rye bread is no despicable food in the best of families. When made from good sweet grain, properly ground and bolted, and the proper skill used in all the manipulations, it is not only wholesome but palatable, and our city bakers who make it right, dispose of large quantities. It was not so great a hardship as some suppose that our New England ancestors were chiefly confined to "rye and Indian" for bread-stuffs. According to some analyses the proportion of nitrogen (the muscle-forming principle) is nearly the same in rye as in average samples of wheat. Rye bread contains more sugar and keeps moist longer than wheat-bread.

Rye is not a hard crop for land, though land may be exhausted by it. Grass grows far better after it than after oats, and even better than after any grain except barley. The proper time for sowing it is the same as that for winter wheat—the fore part of September. Pasture land, or that from which a crop of hay has been taken the present season, may be used for it. It is better to plow it as soon as practicable, in order that the sod may become partially decomposed before sowing the grain. Light land plowed well once, may be so worked with the barrow and field cultivator as not to need another plowing. Six or seven pecks of seed to the acre is the proper quantity. There is considerable difference in varieties of rye. A variety called the *multicole*, introduced from France several years since, was unusually productive, but was not thought quite as good for bread as the *white rye*.

On dry ground, not likely to *heave* by frost, clover and grass seeds may be sown with the rye. But where the ground is not well drained, there is a liability to winter-killing, and in such situations it is better to sow the clover and grass seeds just as snow is going off in the spring.—*Bost. Cult.*

A New Mowing Machine.

The country gentleman, of July 15 th states.—Mr. Fisk RUSSEL, of Boston, a practical mechanic of large experience, has invented a mowing machine which differs in several particulars, both in principle and construction from those now in successful operation, and decided advantages are claimed for it. The driving wheel is the same as in Ketchum's; but the vibratory motion is obtained from a wheel consisting of a series of cams, by the undulating rim of which a lever is made to move the knives. The knives are each separate, and play upon a steel pivot, acting as they vibrate, like a pair of shears. The frame of the machine is supported by a second wheel of the same size and opposite to the driving wheel, which renders the movements of this machine more steady, and obviates in a great measure, the side draught.

The machine was tried last week on the farm of B. B.

KIRTLAND, of Greenbush, and did its work admirably. There was no clogging, and apparently less power was required to operate it than other machines. It is simple in its construction, and works with very little friction. Mr. RUSSEL intended to devote the remainder of the hay season to experimenting with and perfecting his machine, and it will not be offered for sale till another year. Any judgement as to the superiority of the machine would be premature until further trials are made but it certainly promises to be a valuable labor saving implement.

Hedging.

The enterprize and economy of our American farmers, are carrying everything that pertains to the interests of agriculture to a high degree of perfection. Everything that can be made profitable and pleasing is vigorously engaged in by them, except improvement in fencing their lands. In this they are lacking.

It is true, however, that many farmers throughout our country are awakening up to their interests upon this subject. They are throwing away their old, labor-expending, timber-wasting and land-encumbering worm-fences; and in their stead are cultivating straight and beautiful hedges, which when at full maturity, and if properly managed, will turn most all kinds of animals, and not occupy over one-half the ground taken up by the common rail fence; and aside from their efficiency to protect crops, they adorn and beautify a farm.

We think that no other subject in rural economy demands more immediate attention and thorough investigation than this, the hedging of our lands. The great amount of hard labor it requires to make rail fences, and the growing scarcity of timber in many parts of the United States, demand it. Perhaps not more than one-half the improved farms in the State of Ohio have a sufficiency of timber to reference them. Hence it is becoming necessary for us to fence our lands in some other way than to split our best timber into rails, and thus deprive ourselves of an article which we will need more for other purposes.

Since this evidently is the case, it is to our interest, and really our duty, to ascertain which is the cheapest and most durable among other modes of fencing. This we can only learn by demonstration or critical investigation.

We will now notice some of the advantages that a hedge has over the ordinary rail fence. Many of our farmers have from 80 to 100 acres of cleared land, and some of them much more. We will put the average number of acres generally enclosed at 80. Dividing this into fields containing nine acres each, we will have almost nine fields. It will require 960 rods of fence to enclose all these fields, and by putting 18 rails to each rod, which are not too many to make a good fence, we will see—thus, 960x18=17280—the amount of rails that is used in building the fences. It will take two logs three feet in diameter to make one hundred rails. Then upon calculation, that it requires 345 logs, and a little over, to make the 17,280 rails; each of the logs would make 600 feet of inch plank, which at its lowest market price, \$1 25 per 100 feet, would make the lumber (that all these logs would make) worth \$2587. This amount, and more, the majority of farmers have lost by not hedging; for it would cost no more to have the lumber manufactured than it would to have the timber split into rails, and the rails laid up and arranged into a fence, and we will show clearly before we get through with our thoughts upon this subject, that the cost of labor in cultivating a hedge will be paid from heretofore dormant sources.

We have already said that the common worm fence is a land-encumbering worm. It is impossible, from the manner in which these fences are generally constructed to cultivate the ground close up to them with our ordinary implements of agriculture. The strip of land occupied by fences between fields is generally nearly a rod wide, we may safely say three-quarters of a rod. We will now see how much land the farmer throws away, and worse than throws away, for these strips of land are generally very productive of brush and briars, and the farmer is obliged to expend nearly as much time and labor to keep them down, as would be necessary to cultivate a good hedge. We have already seen that it requires 960 rods of fence to enclose and divide 80 acres of land into conveniently sized fields, and this strip of land occupied by the fence being three quarters of a rod wide, we will find upon calculation, that four and three quarters acres of land are taken up by the fence, while a properly

cultivated hedge will not occupy over six feet in width, being just half the land occupied by the worm fence. We then gain in fencing 80 acres of land, by using the hedge two and three-eighths acres, which if judiciously cultivated, will pay for the setting, the trimming and pruning, and all other work that is necessary in raising a hedge. Now we can see that the timber usually worked up for making rails is a total loss to the farmer.

These, however, are not the only advantages that a hedge fence has over the ordinary rail fence; but it is also a self-supporting and self-perpetuating fence. With a little attention being paid to it yearly it can be kept up for any length of time. The same principles that caused the young scions to grow will keep it up and repair it yearly, if but the dead and superabundant sprouts and twigs are removed; and the proceeds of the two and three-eighths acres of gained land will pay for doing this.

Not so with the rail fence. It will not support itself. In a few years after it is constructed, the bottom or worm rails will rot, the fence become racked and fallen-down in many places and must now be rebuilt before it will again secure the crops. Not only this, but new rails are necessary, more valuable timber must be destroyed, and much hard labor expended to supply the loss of rails, and to repair the breaches and broken down places; and this expense and labor will now be required more or less every year.

We think that if every farmer would investigate the subject fairly and candidly, he could come to no other conclusion than that the old rail fence is yearly detracting from his interests, that it is a sinking structure, while the other is a self-supporting one

H. T.

Jelloway, O., 1854.

Striking Cuttings.

The following are half a dozen general rules relative to the selection and preparation of slips or cuttings. 1st. Let all slips be cut off as near a joint as possible without injuring it. 2nd. For autumn or winter make choice of well ripened firm wood. 3d. In spring or summer half ripened young shoots are best, as they strike quicker than old wood. 4th. All succulents, such as Cactuses, Geraniums, &c., should remain a few days to dry, until their wounds are closed up, before they are potted. 5th. Never allow cuttings to remain in water; if they cannot be planted immediately lay the ends in moist sand. 6th. In winter or summer always let a few of the leaves remain on evergreens.—*Gard's Chronicle*.

Rule for Raising Poultry.

We find the following in the papers without credit, and do not, know its origin.

1. All young chickens, ducks and turkeys should be kept under cover of the weather during the rainy seasons.

2. Twice or three times a week, pepper, shallots, shives, or garlic, should be mixed up with their food.

3. A small lump of assafoetida should be placed in the pan in which their water is given them to drink.

4. Whenever they manifest disease, by the dropping of their wings or any other outward signs of ill-health, a little assafoetida broken into lumps, should be mixed with their food.

5. Chickens which are kept from the dunghill while young seldom have the gapes; therefore it should be the object of those who have the charge of them, so to confine the hens as to preclude their young from the range of barn or stable yards.

6. Should any chickens have the gapes, mix up small portions of assafoetida, rhubarb and pepper into fresh butter, and give each chicken as much of the mixture as will lie on half the bowl of a small tea-spoon.

7. For the *pip*, the following treatment is judicious: Take off the indurated covering on the point of the tongue, and give twice a day, for two or three days a piece of garlic the size of a pea; if garlic cannot be obtained, onion, shallot or shives will answer; and if neither of these be convenient, two grains of black pepper, given in fresh butter will answer.

8. For the snuffels, the same remedy as for the gapes will be highly curative; but, in addition to them, it will be necessary to melt a little assafoetida in fresh butter, and rub the chickens about the nostrils take care to clean them out.

9. Grown-up ducks are sometimes taken off rapidly by convulsions. In such cases, four drachms of rhubarb, and four

grains of Cayenne pepper, mixed in fresh butter, should be administered. Last year we lost several by this disease, and this year the same symptoms manifested themselves among them; but we arrested the malady without losing a single duck, by a dose of the above medicine to such as were ill. One of the ducks was at that time paralyzed, but was thus saved.

Spiræa Gandiflora.

We are happy to say that this *Spiræa* is perfectly hardy. The plants originally introduced are now growing in our nursery here, where they have been ever since their introduction in 1849. They have never had any protection whatever. The plants are 6 or 7 feet high, and as much through. Their general appearance is decidedly that of an *Amelanchier*; and it is only when examining the suckers that any resemblance to a *Spiræa* is perceived.

Sale of Imported Stock.

The recently imported cattle of the Livingston County (N. Y.) Stock Association, were sold at Avon, June 27. The stock had scarcely recovered from their long voyage of 50 days during which 12 out of the 24 shipped, died—but the prices indicate the value of the stock and the judgement of the farmers of Livingston. The sales were as follows:

Music, 12 months old, \$690—Chauncey R. Bond.
Lady Ellington, 19 months old, \$400—J. Freeman.
Medora, 10 months old, \$350—Hon. C. H. Carroll.
Australia, 19 months old, \$615—Chauncey R. Bond, Esq.
Miss Dowly, 10 months old, \$625—Homer Sackett.
Falacy, 10 months old, \$525—Richard Peck.
Hopeless, 18 months old, \$400—C. R. Bond, Esq.
Damsel, 18 months old, \$350—Forman Chappel.
Treasure, 2½ years old, \$505—Daniel H. Alberston.
Phoenix 2d, 3 years old, and a calf, \$380—Daniel McHardy.

Bull Usurper, 3 years old, \$1,075—C. H. Carroll.

Bull Blesto, \$1,000—J. W. Taylor.

Total amount, \$6,925.—*Ru. New Yorker*.

Maclura Hedges.

My object in this article is to meet some objections to the Osage Orange Plant itself, inasmuch as my experience tells me that there is known no plants so peculiarly adapted to the purpose, and so valuable to our Agricultural interest. Its surprising properties are no longer a problem. Some writers are yet disposed to class it among the 'humbugs,' and may doubt its utility, but amongst them all you will not probably find much, if any experience. If rightly managed it makes the best and cheapest fence in the world without any exception whatever.

Believeing then as I do in the extraordinary properties of the Osage Orange (*Maclura*) for making Live fences, I will state what I believe the best mode of cultivation and management, in as few and plain words as practicable, so as to be understood by the inexperienced—with the hope that all interested persons may practice, and enjoy its benefits.

In order then to make the seed vegetate surely and quickly they require to be soaked a long time in warm water—usually three, four or five days, but always until they are very much swollen and sprouted. The water should be kept warm all the time.

The nursery should be located with care. It should be a rich sandy loam. If you have none such—prepare the best spot you have, by deep and thorough cultivation, mixed with wellrooted manure, if not otherwise rich enough—making the drills about one foot apart, and before dropping the seed send to the woods and get some of the richest and sandiest mould you can produce,—drop the seed, and cover with the woods mould an inch or an inch and a half deep. If the seed are well soaked—the ground clear and strong, they will make their appearance before the weeds and grass will interfere with them. So soon as they are well up, the greatest care will be necessary to avoid the labor of hoeing and weeding, which can only be done by mulching well with leaves, cut straw, saw dust, or tan bark. I name the mulching materials in the rotation I think they answer the best. The whole nursery should be covered, except only the plants; and put on thick enough to prevent the grass and weeds from appearing; by doing so all further labor will be avoided.

They are better not to be planted too early in the Spring

—the middle of May is soon enough.

The next spring they are ready for setting in the Hedge—the ground for which should have been well prepared the previous fall, by subsoiling, and manured if necessary, and again in the very early Spring ploughed barrowed and rolled repeatedly till completely pulverised—then drive the stakes,—lay the line and spade the trenches. More care is necessary in *banking up* plants to insure their growth, than is usually observed; and more with this, as it is desirable that every one should grow. The top may be cut off to six inches and the roots pruned proportionally. Set the plants in a double row six inches apart, diagonally—thus * * * * *—a foot apart in each row, making them equal to six inches in a row. As soon as planted mulch *deeply* with leaves, straw, saw dust, or tan bark, and they will want no further attention until the next spring, at which time, the pruning commences, and you begin by cutting all off within an inch of the ground—in the middle of June cut all the tops again to within four inches of the former cutting—the next Spring cut to with five inches of the preceding, and again the middle of June to within six inches, and so continue cutting each spring and June, increase the distance an inch each time, till the Hedge is high enough. By this means you thicken the hedge perfectly all the way up, and when grown it will require the less pruning from there being large stalks. By pruning the tops only while growing, the side branches become the stronger; they can afterwards be pruned and thickened, till it may be made impenetrable to a bird. The mulching may require some renewing the second year, but afterwards the shade of the Hedge will prevent the interference of the grass and weeds.

The plants should never be set further apart than I have recommended above—particularly in strong soil, as the further apart they are set the stronger they will grow, and create so much more pruning after the Hedge is grown, or otherwise be objectionably high. Neither will the roots extend so far when closely set.

The Hedges should be fully protected from stock for the first two years. Mole often burrow under the Hedge, destroying the roots—to remedy this, make the ground 'dishing' where the plants are set two or three inches lower than the sides, which is found effectual, and the plants flourish better.

The pruning may be made a comparatively small job, by using a strong knife for the purpose about two feet long. A common grass hook answers pretty well, and some labor may be avoided by pruning in the fall, before the wood becomes hard, in place of the spring. The plant bears it so well, that there is no danger.

The 'plashing,' 'plaiting,' or 'interlashing,' when rightly done, may make a perfect fence, and quite ornamental—particularly while young—but is expensive; and for common purposes, I would not recommend it further than to stop a gap.

I am persuaded that the plant may be used much farther north than has been admitted. For the first two or three years the limbs will be severely nipped by the frosts, but not to the injury of the fence. Respectfully, WILLIAM NEFF.
—*Western Horticultural Review.*

Profitable Crop of Ruta Bagas.

It is not often that we can record instances of more profitable culture, than the following, as stated by our friend, Cheever Newhall, of Dorchester;

The land on which the crops mentioned below grew, was poor pasture land, and had not been cultivated for more than thirty years. It was ploughed in the fall, and again in the spring; was well manured, partly with night soil and partly with piggy manure, to which was added a quantity of guano and ground bones,—the cost of the latter being \$5 60 per acre. The first crop of potatoes grew well and yielded fairly: were dug early and sent to market. In digging the potatoes, the tops were laid regularly between the rows; at the same time care was taken to haul the earth over them, which made somewhat of a ridge. The ridges were three feet apart. The ruta baga seed were dropped upon them, nine inches apart, at several times, between July 27th and August 10th. No plough was used after taking off the crop of potatoes. At least one-tenth of the spaces intended for the ruta baga were vacant, as the seed did not vegetate. About ten days after the plants were up, the cultivator was passed between the rows; the plants were thinned out, leaving but one in a space, and thoroughly weeded. This is all the cultivation they received.

About the 20th of October, the entire crop on the five acres was sold for one hundred and fifty dollars—the purchaser to take them from the ground, were they then were.

The person who bought them says that the product was more than twelve hundred bushels, and that they were all well worth the sum he paid for them. When it is considered that this crop was raised upon land that had produced a fair yield of potatoes, and that thirty dollars per acre was realized for a second crop, while the expense did not exceed five dollars per acre. I am led to believe that land will sometimes, at least, pay the cultivator a fair compensation for the labor bestowed.—*Practical Farmer.*

How to Know the Age of A Horse.

The colt is born with twelve grinders. When four front-teeth have made their appearance, the colt is twelve days old; and when the next four comes forth, it is four weeks old. When the corner-teeth appear, the colt is eight months, and when the latter have attained to the high of the front-teeth, it is one year old. The two year old colt has the *kernal* (the dark substance in the middle of the tooth's crown) ground out of all the front-teeth. In the third year the middle front teeth are being shifted; and when three years old these are substituted by the horse-teeth. The next four teeth are shifted in fourth year, and the corner-teeth in the fifth. At six years the kernal is worn out of the lower middle front-teeth, and the bridle-teeth have now attained to their full growth. At seven years a *hook* has been formed on the corner-teeth of the upper jaw the kernal of the teeth next to the middle fronts is worn out, the bridle-teeth begin to wear off. At eight years of age, the kernal is worn out, of all the lower front-teeth and begins to decrease in the middle upper fronts. In the ninth year, the kernal has wholly disappeared from the upper middle front-teeth, the *hook* on the corner-teeth has increase in size, and the bridle-teeth lose their points. In the tenth year the kernal is worn out of the teeth next to the middle fronts of the upper jaw; and in the eleventh year the kernal has entirely vanished from the corner teeth of the same jaw. At twelve years old, the crown of all the front teeth in the lower jaw, has become triangular, and the bridle teeth are much worn down. As the horse advances in age the gums shrink away from the teeth, which, consequently, receive a long narrow appearance, and their *kernals* have become metamorphosed into a 'darkish point, gray hairs increase in the forehead, over the eyes, and the chin assumes the form of an angle.—*Practical Farmer.*

Green Crops for Barn use In Summer.

It is the great number of cattle that a British farmer keeps on his farm, which by furnishing so much good manure, enables him to raise such good crops. The turnip crop, occupying one-fourth his farm, furnishes him the grand means of keeping so large a stock during the winter months; and the practice of soiling his horses and cattle, enables him to keep more animals than he otherwise could during summer.

By soiling, is meant the system of feeding cattle in sheds and stalls on green food grown for that purpose, instead of allowing them to graze the fields at pleasure. That more food can in this way be obtained per acre, few will question. That we can adopt soiling, except in some few cases near large cities admits of some doubt. One of the great objections to the practice is the greater amount of labor required in mowing and carrying to the barn the green food, than in letting the cattle cut it themselves. Another objection is that our climate is not so well adapted for the production of succulent summer food as the cool moist climate of the British isles. Yet, as we have often said, we obtain heavier crops of red clover than do British farmers, and red clover is there considered one of the best crops for soiling purposes; and could it be grown with as much certainty and in such quantity as in Western New York, it would be much more extensively used.

We believe it would pay every farmer to take an acre or two of clover, as contiguous to the barn as possible, and manure it highly in the fall or spring. It would be found of great advantage to cut and feed to the horses in the stable at noon, and for an hour or so before turning them into the field in the evening. A few acres so manured and cut early, would afterwards yield a splendid crop of clover seed: or it might be mown twice, as green food for the horses and cattle.

Indian corn is perhaps the best food that we can grow for

green food in summer. It stands drought better than any other crop; and if the soil be rich, an immense amount of nutritious food can be obtained per acre—certainly more than from any other summer crop. For this crop the soil should be either naturally very rich or be well manured. Let it be prepared as you would your other corn land. The deeper it is plowed, and the mellowier it is made, the better. Four bushels of seed should be sown broadcast per acre, as soon after corn planting as possible. If the soil is moist and in good, fine order, soak the seed corn for twenty four hours previous to sowing. In this way it will be up in two or three days, and will get the start of the weeds; and if the corn is sown thick, and grows well, it will smother them all, and leave the land in good condition for the following wheat crop. Perhaps, however, it would be best to sow the corn in rows twelve or fifteen inches apart, and hoe it once or twice; the corn would grow more rapidly, and the soil would be cleaner.

Lucerne answers well for soiling purposes, but its cultivation is attended with considerable labor in keeping the soil free from weeds. It is a perennial plant, and does not reach its full growth till the third year. On a rich, sandy loam, well underdrained, plowed, and subsoiled, immense crops of lucerne can be grown. Guano is a splendid manure for this crop, and possesses the advantage of being free from weeds. Lucerne is sown earlier in the spring, in rows from one to two feet apart; eight or ten pounds of seed per acre. It must be frequently hoed and kept free from weeds, and should be cut but once the first year; it will afford three or four crops in a season.

A Barn.

The Enfield Shakers are building a granite barn for their cows. It is to be two hundred and fifty feet in length, fifty feet wide, and will probably cost \$15,000. Mr. Elkind the artist, gives the following description of the edifice:

"The location and arrangements of this barn edifice, are in many respects admirable. Its outer walls are of stone and its roof of slate. It is located across a gentle ravine, opening from bank to bank, and is arranged that teams laden with hay may enter at either gable, precipitate the load to the bay below, pass on, and make their egress at the other end. Such a situation has enabled them to extend a cellar its whole length for the reception of the manures, both solid and liquid which are kept from filtration or otherwise escaping downwards by a plank floor laid upon a stratum of clay, wrought as a bed of mortar. The descent of the grounds upon the back part of the barn renders ingress and egress to and from the cellar convenient and easy for carrying pond mud and manure. The cows will be tethered all upon the south side of the barn, and in one continuous longitudinal stable sixteen feet in width, with walls plastered inwardly with lime mortar, and leaving a wall behind the gutters, of four feet in width, and a corridor or passage between the cribs and mows upon the North side, (preserves the warmth of the barn throughout,) sufficiently wide for a horse and cart to pass, which is often convenient, when feeding with green food.

The scaffolds above the cows are the best depository for litter, which is let down through a trapdoor in the rear of the cows; an also, when partitioned into rooms, serve as a place for a herdsman's office. All these arrangements render it perhaps the most convenient, and it is undoubtedly the most expensive barn in America. Its height to the eaves, upon the back side, is to be thirty-feet, stables, eight feet. [including timbers] and scaffolds, sixteen feet. Flooring for teams framed four feet below the eaves."

Guanite.

The appendix to the report of the Department of Science and art contains some correspondence respecting the crystals of guanite, which, it is stated, is found in considerable quantities at the Falkland Isles. The duke of Newcastle requested Dr. Lyon Playfair to obtain some information with respect to its value. Mr. Way, the chymist reports that guanite when properly ground to powder for application to the land, will make an excellent manure, suitable for corn and green crops, and that it would be worth from 7*l.* to 8*l.* per ton in England. Ichaboe guano, he says, which had a ready sale at 7*l.*, contained on the average a little more ammonia, but only half as much phosphoric acid as guanite. Dr. Lyon Playfair had before drawn attention to the crystals of guanite which he observed in the samples of guano sent home from the Falkland Islands; he stated that guanite, being in reality

phosphate of magnesia and ammonia, must form a rich manure, well worthy of being imported.

Mowing Machine Trial.

CANADIGUA, Friday July 7.

In the case of Howard and others *versus* Forbush and others, in the U. S. Circuit Court, Judge Hall presiding, a verdict has just been rendered by the jury in favor of plaintiffs on every issue. The jury found first, that Wm. F. Ketchum was the original and first inventor of the improvements in mowing machines claimed in his re-issued patent of April 1853. Second, that the re-issued patent of Ketchum of April 1853, is for the same inventions desired and intended to have been patented in his original patent of July, 1847; and third, that the Forbush machine embraces both the foregoing claims, and is an infringement of Ketchum's re-issued patent.

Worms on Quince Trees.

I heard various accounts of the disease now threatening the entire destruction of the Quince tree, which so conflict with each other, that they are entirely unsatisfactory. There is one matter, however, upon which they all agree; that it is the work of an insect or worm.

The practice of grafting pears on quince stocks has become so common, that it is important to know whether the stump on which the graft grows will in time be subject to this affection, if as, to endeavor to find a preventative.

Many persons are in the habit of examining their Quince trees twice a year, April and October, and if they succeed in finding the worm in April, it has been eating the tree all winter, and done all the harm it can; and if in October, it has bored so far into the tree as to render it almost impossible to get at it without cutting away large portions of the tree, and when accomplished seems "like locking the stable after the horse is stolen."

I have some trees which a few years ago bore smooth, large and round fruit. Three or four years ago they became unhealthy, gradually declining; the limbs and fruit became knotty, the latter entirely worthless, the trunk bored full of holes, almost destroying vitality.

Determined if possible to stay their depredations, in the month of May of last year I carefully removed the earth from the trunk of the trees, together with the loose bark and decayed wood, that I might have this portion of the tree smooth and thus be enabled to discover at once any change that might occur. In the forepart of June the wasps, hornets and blow-flies collected on spots over the tree nearest to the ground, and on the most healthy parts, and from which there was a slight discharge of moisture, that they fed on upward, and appeared to be very fond of, as they could not be driven away, and must have appropriated much to their use which should have been given to the fruit. The discharge gradually increased until the tenth of July, when it became dry, and instead of sap a substance resembling sawdust was excluded. Upon examination I found just beneath the bark, in all the parts affected, from one to four worms of the order Lepidoptera, with black heads, from an half an inch to an inch in length. The bark over them had not been eaten; they prey exclusively on the wood.

The trees from which they were destroyed last year exhibited no marks of the worm having wintered with them through last winter, but they have been again pierced, and within a few days I have taken many worms; but find the health of the trees much improved, and am satisfied that destroying these worms every summer will entirely restore the health of the trees and quality of the fruit. The latter part of July and fore part of August is the proper time to destroy them.

In addition to what is said above, it should be remembered that the pear on quince stock may be secured entirely against the quince borer by burying the quince stock in planting below the surface. The borer works only at the surface. The quince is not so readily injured by deep planting as other trees, and sends out lateral fibres on all sides.

Fertility of Nile Mud.

The celebrated microscopic philosopher, Ehrenberg, has examined this mud, and finds its great fertility to be owing, not so much to any peculiar mineral contribution, or to the presence of vegetable matter, as it is to the vast accumulation of extremely minute forms of microscopic animals, which, by their decomposition, enrich the soil.

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Breeding and Management of Stallions.

We commend the following standard article from the United States Journal of Agriculture to the attention of our readers:—

It is difficult to decide at what period of its history to commence our account of the Stallion-colt. If we begin at his birth, we are reminded of various matters antecedent to that—to him important—epoch, that have a material influence upon his after life. To be safe, let us go back to his progenitors.

As males communicate their organization with the most obvious effect, it is by no means singular that great stress is laid, by breeders of horses and other animals, upon the appearance, physical conformation and constitution of the sire. This is commendable. But farmers and breeders generally are not as fully aware as they should be, that various items, other than color, style and figure, are transmissible from sire to son. These are contracted feet, founder, spavin, ring-bone, curb, sandcrack, diseases of the eye, and of the respiratory organs, as broken-wind, roaring, wind-sucking, &c., &c. We are as fully persuaded, that these affections and diseases are hereditarily transmissible, as that color, action or temper may be so transmitted.

At the late National Exhibition of Horses, held at Springfield, Mass., the writer was Chairman of the Committee on Geldings, in which class were 109 entries. Many of the finest horses subjected to their examination were found to be affected with ring-bone and other diseases of the leg and foot; and the reply to the question of the Committee on this point invariably was—"he was foaled so."

In this view of the case, it becomes breeders to look well to it, that the selected Stallion have no hereditary tendency to disease, or defect capable of being transmitted to the offspring; for "like begets like," and as surely as a noble steed can mark his offspring with his good qualities, so certainly can he hand down also his imperfections of temper and formation.

If men are too often careless in the selection of a Stallion for purposes of breeding, what shall we say of their choice of a mare? Any old, decrepid, diseased, purblind she-horse that can be procured, or that is found fit for no other purpose, is considered good enough to breed from! And many such an old, good-for-nothing-but-the-compost-heap creature is kept by farmers and others for this especial and only purpose. Knowing this, one ceases to wonder that the country is stocked with such a superabundant supply of miserable, early broken down and diseased horses,—insomuch, that he who now-a-days undertakes to buy a horse on his own judgment, unless he goes with his eyes peeled, and "had his eye teeth cut" at an early period of his existence, will, ordinarily, find himself sold remarkably cheap.

"Any one," says Mr. Castley, an eminent English Veteri-

nary Surgeon, "who, during the last twenty or twenty-five years, has had frequent opportunities of visiting some of our great horse-fairs in the North of England, must be struck with the sad falling-off there is everywhere to be remarked, in the quality of the one-half, and three-part bred horses, exhibited for sale. The farmers when taxed with this complain that breeding horses do not sufficiently repay them; and yet we find large sums of money always given at fairs for horses that are really good. The truth is, that farmers do not, now-a-days, breed horses so generally good as they used to do; and this is owing to the inferior quality of the mares, which they now commonly employ in breeding.

Some of the best mares, it would appear, are now purchased by gentlemen for saddle horses,—it being now, as it was not formerly, as fashionable to use mares as geldings for riding-purposes. A great number of the finest three-part bred mares, also, are imported to the Continent.

These facts account for the deterioration of the horses in ordinary use in England, and most of them are in force here. Many an old broken-down creature is purchased, or kept for a breeder, because she is fit for nothing else! Fit for nothing else? If fit for a breeder, (unless injured by some accident,) she is fit for any thing else.

Sire and dam being judiciously selected, our next care is with the unborn colt—the fetus. "Our next care," we say, for the young courser may be starved, or otherwise maltreated, as effectually before, as after birth. The mare, when with foal, should be well, but not too plentifully fed, should not be overworked nor yet allowed to lack exercise, and should never be subjected to such rough usage as is but too common among farm hands and stable-boys, who are ever over-free with the toes of their cow-hide boots. Discharge such at once, after having treated them to "a little of the same," to see how they like it, for no one taken down with the accursed disease of "Cruelty to Animals," was ever radically cured of it.

It is well to offer the mare, immediately, and, for a few days after parturition, a drink of lukewarm water with corn or oat meal, or shorts, mixed therein. She should then be permitted to run out to grass for a month, at least, to recover strength, though the common custom, we know, is to put them in harness within a fortnight from foaling.

Our young Stallion being now fairly in the world, and moving upon it on his own legs, his first experience of life is stirring. The old farmer has an errand at a neighboring village, distant some six or seven miles. "Put Bessy to the old chaise," says he, and off he drives with commendable moderation—little Morgan trotting in company; but business being concluded at the store rain threatens, or other cause induces a hasty return: and we see Bessy doing all she knows how to get home in season, and little Morgan doing a little more, to keep up. His long, lank legs soon get tired; his footing is unsure; his bellows get out of order;

he is over-heated; he lays the foundation of troubles, that are perfected in the full grown horse.

For the first six months of his life, the chief food of the foal is "mother's milk," although he will pick up, now and then, a little else with all the pride of incipient horsehood. If the mare be insufficiently fed during this period, or over-worked, (which lessens her yield of milk,) the foal is, in either case, half-starved; and a half-starved colt is almost never well made when he arrives at maturity. He is always a *weed*. He should be well fed from, and before the time of his birth.

At one year old, though the colt has by no means attained his fullness of form, it may be decided whether or not to retain him as a Stallion. If, at this age, however many good points he may possess, *indications* of contracted feet, founder, or any of the other diseases heretofore mentioned as transmissible, be seen, geld him at once. He ought not to serve as a Stallion.

At three years old, a horse may be allowed very moderate service. Over-taxation of his powers at this age—or at any age, for that matter—is short sighted policy for the owner. As a four-year old, he will be more matured and full of vigor, and at five he is still more able to do service. It is a too common fault—this over-taxation of a Stallion's powers; and it tells both on himself and on his get. The English limit for a prize horse, that "travels his district," is sixty mares in a season, but eighty are often covered, without prejudice. What shall we say of horse-owners, who boast of having had double these numbers served in a season by their horse—sometimes three a day!

A notable instance of the evils of over-taxing a horse's procreative powers occurred in England, many years ago, in the case of a celebrated stud belonging to H. R. H., the Prince of Wales. The groom was permitted to pocket a half-guinea fee from all comers; and it may well be guessed that no applicants were refused. The consequences were serious to the horse, and to very many of his get. Another instance is within our knowledge. A Stallion of some repute in New England was allowed to serve one hundred and forty-three mares in a season, and was then sold to go to Virginia. Most of the colts of that year proved to be miserable creatures; and in Virginia, in the year following, he himself proved *perfectly impotent*.

The small size of very many—I may say of a large majority—of our horses is an evil that is great, and growing (like a cow's tail—downwards.) This may be attributed to a poor selection of breeding mares; the scant feeding of the dam, before and after foaling—thus half starving the foal; bad usage of colts by stinted food or unsheltered exposure to cold and storms, and the general over-taxation of the powers of stallions.

We are well aware that some persons, who pass for wise men in matters of horse-flesh, contend that the smallness of size is no objection to a horse; and cite for proof the fact that some of the fleetest Arabian coursers are but 14½ hands high. Admit that these Arabian lightning-streaks are of so small a size, and what does it prove? Nothing. When the American's horse has nothing to do, but to bear a hirsute, pinguid vagabond, over sand deserts, on hen-roost-robbing expeditions, 14½ hands will be high enough (until the rider rivals Haman.) But so long as the farmer has sward-land to plow, cord-wood to draw, and a stout wife and half-score of stalwart sons and buxom daughters to be driven to meeting, or to the State Fair;—so long as our city carriages are ponderous and trucks weighty;—so long shall we need a little more height in our horses, and that not all in the legs.

The subject of increasing the size of our horses will more

properly be discussed in an article on Breeding Mares; for it is with the mare that the improvement must commence. To subject small mares to large sized stallions will not effect the desired change. It will give us, as it did to the Yorkshire farmers, who tried a similar experiment, "a race of long-legged, large-boned, small-chested, worthless animals." Such, also, was the ill effect, said our lost friend J. S. Skinner, of the cross by a large "Cleveland Bay" Stallion, imported and sent to Carroll's Manor, Maryland.

"The proper method," says Professor Cline, of London. "of improving the form of animals consists in selecting a *well-formed female, proportionately larger than the male*. The improvement depends on this principle: that the power of the female to supply her offspring with nourishment is in proportion to her size, and to the power of nourishing herself from the excellence of her own constitution."

"The size of the foetus (he continues) is generally in proportion to that of the male parent, and therefore, when the female parent is disproportionately small, the quantity of nourishment is insufficient, and her offspring has all the disproportion of a starveling."

"To produce the most perfect formed animal," adds the same high authority, "abundant nourishment is necessary from the earliest period of its existence until its growth is complete." This sustains the view that we have hereinbefore advanced.

On the Choice of Brood Mares.

There can be no doubt but that the breeding of horses of a superior description would amply repay those farmers who are possessed of the requisite knowledge; and whose farms present a suitable combination of light, productive, arable land, with pasture of good quality. The price of first rate horses has advanced in a remarkable degree of late years, and is not likely to decline so long as the country enjoys an ordinary degree of prosperity. It is every where matter of complaint among buyers that good horses never were so scarce as at the present moment; and the man who is possessed of a weight-carrying hunter, or a fine carriage horse, will, if inclined to sell, not find himself long without a customer. Still, notwithstanding these inducements, the breeding of horses on a large scale is confined to a few districts, of which the principal are the East and part of the North Riding of Yorkshire, Lancashire, and part of Northumberland. On the Yorkshire Wolds it is a pleasant sight to see field after field with its half-score of handsome colts; some of them adapted for the chase, while others are destined for London carriage horses. Though not so plentiful as I remember them twenty years ago, especially the higher bred ones, they are still to be found in sufficient numbers to show that the farmer considers them a portion of his stock productive of profit, and consequently worthy of attention. Even there, however, breeders might with advantage propose to themselves a higher standard, and aim at producing hunters of the first class, which would surely remunerate them better than the leggy and somewhat underbred coach horses, which are every way less suited to the requirements of customers. One reason why hunters are not bred there so extensively as in former years, is, that farmers, either tempted by the high prices offered by foreigners, or under the pressure caused by agricultural distress, have, from time to time, parted with their best brood mares. Much as it is to be lamented that either good mares or stallions should ever leave the country, there are, nevertheless, abundance remaining from which to rear, with judicious management, a valuable breed of young horses. In the hopes of affording some encouragement to the extension of this important department of agriculture, I offer the following hints:—

One of the most important elements of success is the choice of brood mares. Never breed from a mare which is not well bred. By well bred I do not mean having many crosses of blood; for many mares, nearly and even quite thoroughbred, are very undesirable animals to breed from. A well bred mare, in the true sense of the word, is one of which the progenitors for many generations back have been carefully selected. In this respect Yorkshire breeders possess a considerable advantage over those who reside in districts where breeding is less extensively carried on. In the former country it is easy for a farmer, even of moderate means, to procure mares which are above the suspicion of being tainted with cart-blood. Owing to the abundance both of thoroughbred and "nag"* stallions, a roadster-mare is seldom or never put to a horse of inferior stamp to herself. Thus with little or no trouble or cost, a class of mares is in the hands of Yorkshire farmers which elsewhere it would require much expense and research to gain. With but little of outward show to recommend them, they breed excellent hunters, when put to a suitable thoroughbred horse; whereas mares of similar appearance in other countries would only produce stock fit for harness—if, indeed, they were good for anything. The reason is, that in the latter case the cart or other inferior crosses would re-appear, and thus baffle the calculations of the breeders.

Perhaps mares such as the Yorkshire farmers use are, on the whole, the safest for the agriculturist to breed from. Although not so high bred as some others, they are less expensive to purchase, and require less judgment in their choice than those of a more ambitious character. They possess one recommendation which the farmer should never lose sight of—I mean power. Let his object be to produce a colt which, if it fails as a hunter, will be useful in harness; or, if some accident should unfit him for fast work, will at any rate take his share of work on the farm. I know no better test of success than this, viz: That the colt which loses a portion of its conventional value should yet retain its real usefulness. Always make strong, well-set-on forelegs a primary object. They should be placed forward, so as to be an efficient support to the animal; and the shoulder ought to stand backward, in order to allow the legs liberty of action; but it must be somewhat round and full, not thin and confined, which some persons conceive to be a *fine* shoulder. Never breed from either mare or stallion with a decidedly bad shoulder. An animal may dispense with almost every other point of excellence, and yet be of some value; but if it has a bad shoulder, it bears so thoroughly the stamp of worthlessness, that nothing else can make amends for this fundamental malformation. If your mare is tolerable in her shoulders, but not very good, endeavor to find a stallion which is particularly excellent in this respect. The forelegs and shoulders being right, action usually follows. But this being a very important point, do not take it for granted, but subject it to your strictest scrutiny. For my own part, I almost think as highly of action in a horse as Demosthenes did of it in reference to an orator; at any rate, not even the most fabulous combinations of beauty, breeding, temper and shape, would induce me to buy a horse which did not possess it.

The foot ought to be taken up straight by a graceful bend of the knee, and set down again flat, without any deviation either outwards or inwards. The most common faults of action are a sort of shovelling movement forwards, with the knees almost straight, and a sideways motion, either outwards or inwards, with one or both feet. But it is quite possible for the knee to be too much bent, and the foot to be

apparently pushed backwards when taken up instead of forwards, thus causing it to be set down too near the place whence it was raised. Objectionable, however, as such stand-still action may be in a hack, I should prefer it in a brood mare to the opposite defect.

The great reason why action in the mare is so essential is, that she having the roadster blood ought to supply it; whereas, it is not always possible to find it in a stallion; it is, indeed, very rare to see a thorough-bred horse whose action is such as would be desirable in the park hack, the roadster, or the hunter. The racing man cares not, provided his horse's head is first seen at the winning-post, in what form he moves his forelegs. The qualities which win fame for the racer are speed, endurance and pluck. The conformation most conducive to speed depends more on the back, loins and hindlegs than on the forelegs; it is therefore by no means uncommon to find horses, whose performances on the turf have been above mediocrity, with forelegs such as would not wear for three months on the road, and with action such as no man would willingly endure in his hack or his hunter. Thoroughbred horses, with every point such as the breeders would desire, combining power and beauty, equally excellent in their forelegs, their ribs, and their hindlegs, are not to be met with in every neighborhood, and even when found will seldom cover half-bred mares at all, and then only at exorbitant prices. These are the magnates of the stud which will not condescend to mates of descent less illustrious than their own. If, then, you cannot secure their services, you must avail yourself of the best within your reach. Supposing your mare has the forelegs of the action which I have recommended, you may safely put her to a horse which has tolerable forelegs, provided he is in general power, in pedigree, and in performance such as you desire. I mentioned in a former letter that I once put some mares of my own to "Tomboy;" his forelegs were by no means first rate, and his front action was decidedly scrambling and bad; but my mares being excellent in both these points, their stock showed no traces there of their sire's deficiency. To breed colts with bad forelegs and insufficient bone, is to encumber your land with stock neither useful nor saleable. With mares of first rate excellence in that respect, you greatly extend the range of stallions which it is safe to put to them.

I shall not enlarge upon other points of the mare in detail, for the reason that their selection may in general be left to the discretion of the breeder; and also, because there are many of them which in practice will be more frequently supplied by the horse than the mare. I must say, however, that I should not like to breed from a mare with a bad head or a small eye. Natural soundness, especially in the feet, is very important, and so is good temper. With mares, as with cows and ewes, there is a certain character difficult to describe, but which the experienced breeder knows by instinct, as belonging to those likely to produce good stock. It is not the largest, or the most showy, but those which have a certain refinement of form, and a gracefulness of outline, (which are as characteristic of the well-bred female as power and muscle are of the male,) which will most faithfully reflect in their offspring their own merits, and those of its sire. Many a large, showy mare, on the contrary, will be provokingly uncertain in her produce; one year bringing a foal as much undersize as next year it is overgrown. Such a mare ought to be discarded as soon as possible.

By observing the course which I have recommended, farmers who exercise ordinary judgment will make as safe an investment as they would in the breeding of any other kind of stock. Their colts will make either hunters, carriage horses, or hacks of a useful and powerful kind.

*A "nag" is a roadster. He is less in size than a coach horse, and better bred.

There is a class of mares much higher than that which I have described above; I mean those which combine great power with a pedigree little short of thorough bred—mares which have in their youthful days been foremost in the hunting field, and contended, perhaps not unsuccessfully, in the stoop chase. Such are the dams of the cracks of the Melton field, and of the victors at Liverpool and Leamington. But they are so difficult to buy, and so rarely in the market, that the majority of breeders have little chance of trying their luck with them. Their owners naturally desire to secure a foal, when it may be a great prize, won at a small cost, and will therefore seldom be disposed to part with them. It requires, moreover, a more ripened judgment, and more mature experience, to select mares fit for the production of first class hunters and steeple chasers, than for the rearing of a less ambitious character of stock. The stallion to which they are put ought to be one of a superior class to the majority of the itinerant animals which secure the custom of so many farmers, simply because they save them the trouble of further inquiry. It may be laid down as a general rule that the horse ought, if possible, to be a better animal than the mare. Then there is the difficulty, even when a horse of tried excellence is found, of discovering whether his points and his blood suit the mare. The art and the science of breeding first rate horses are not to be mastered without much thought, trouble and research. There is no royal road to it. He who wishes, in spite of every obstacle, to attain golden results, must adopt a course the very antipodes of the too common one, of putting some mare, because he happens to have her, to some horse, because it happens to come into his yard. He must never breed from a bad mare or a bad horse; nor must he grudge a few pounds spent in securing the best of either sex within his reach. A judicious outlay of capital will here assuredly not fail to reap the reward which has attended the improvement of every other description of stock.—*Mark-Lane Express.*

List of Committees of Pennsylvania State Agricultural Society, September, 1854.

For a reference to the Premium List will explain the classification of the Committees.

CLASS I.—CATTLE.

No. 1—SHORT HORNS.

John Evans, of York county.
William Heyser, Franklin.
Anthony Bolmar, Chester.

No. 2—DEVONS.

Robert T. Potts, Montgomery.
Samuel Gilleland, Centre.
Paschall Worth, Chester.

Nos. 3 & 4—HEREFORDS AND AyrSHIRES.

George Brinton, Chester.
Martin Newcomer, Franklin.
Daniel Davidson, Fayette.

Nos. 5 & 6—HOLSTEIN AND ALDERNEYS.

William Kennedy, Montgomery.
Hugh Oliphant, Fayette.
William Waugh, Mercer.

No. 7—NATIVES OR GRADES.

Nathaniel Ewing, Fayette.
Thomas Hopkins, Montgomery.
Thomas W. Moore, Mifflin.

No. 8—WORKING OXEN.

James Miles, Erie.
John Smyth, Clinton.
Hugh Wilson, Washington.

No. 9—FAT CATTLE.

Isaac W. Roberts, Philadelphia.
Paschall Morris, Chester.
David Kellinger, Lancaster.

No. 10—MILCH COWS.

William Jessup, Susquehanna.
E. Oles, Juniata.
John Strohm, Lancaster.

No. 11—FOREIGN IMPORTED CATTLE.

Geo. Cadwalader, Philadelphia.
James Gowan, "
John B. Adams, Montgomery.

CLASS II.—HORSES AND MULES.

No. 12—STALLIONS AND MARES FOR ALL WORK.

George V. Lawrence, Washington.
Dennis Kelly, Philadelphia.
Charles Lloyd, Lycoming.

MATCHED HORSES, GELDINGS, SINGLE MARES, JACKS AND MULES.

John Berryhill, Dauphin.
A. E. Kapp, Northumberland.
William Colder, Jr., Dauphin.

No. 13—FOREIGN IMPORTED HORSES.

Dr. William A. Irvine, Warren.
Samuel Williams, Philadelphia.
William M. Biddle, Cumberland.

CLASS III.—SHEEP, SWINE, POULTRY.

No. 14—SHEEP AND WOOL.

Peter A. Browne, Philadelphia.
Isaac Newtown, "
Christian Snively, Allegheny.

FOREIGN IMPORTED SHEEP.

John H. Ewing, Washington.
Isaac Pearson, Philadelphia.
John Worth, Chester.

No. 15—SWINE.

Minshall Painter, Delaware.
Marshall Hickman, Chester.
Richard Parker, Cumberland.

No. 16—POULTRY.

A. J. Jones, Dauphin.
Adrian Cornell, Montgomery.
John Oakford, Delaware.

CLASS IV.—PLOWING.

No. 17—PLOWING MATCH.

John C. McAllister, Dauphin.
John Johnson, Delaware.
Andrew Taylor, Berks.
George W. Sheaffer, Cumberland.
John F. Herr, Lancaster.

CLASS V.—FARM IMPLEMENTS.

No. 18—FARM IMPLEMENTS, No. 1.

James Andrews, Delaware.
 William Hotstein, Montgomery.
 David Cockley, Lancaster.

No. 19—FARM IMPLEMENTS, No. 2.

Thomas P. Knox, Montgomery.
 Samuel Keelman, Lebanon.
 Jesse George, Philadelphia.

No. 20—FARM IMPLEMENTS AND MACHINERY, No. 3.

Anthony F. Newbold, Philadelphia.
 John Stephen, Berks.
 Joseph B. Leedam, Delaware.

No. 21—LEATHER AND ITS MANUFACTURES.

John C. Kennedy, Montgomery.
 John H. Keim, Berks.
 James G. Hart, Washington.

CLASS VI.—THE DAIRY.

No. 22—DAIRY SUGAR AND HONEY.

Sketchley Morton, Delaware.
 Lewis Sharpless, Chester.
 Adam Eckfelt, Delaware.

CLASS VII.—FLOUR, CORN MEAL, GRAIN, SEEDS
AND VEGETABLES.

No. 23—FLOUR AND CORN MEAL.

William M. Henderson, Cumberland.
 Henry W. Snyder, Union.
 Caleb Strode, Chester.

No. 24—GRAIN, SEEDS, &c.

David Landreth, Philadelphia.
 H. Jones Brooke, Delaware.
 David Taggart, Northumberland.

CLASS VIII.—DOMESTIC MANUFACTURES.

No. 25—DOMESTIC MANUFACTURES.

R. L. Baker, Beaver.
 Dr. George Smith, Delaware.
 Thomas P. Cochran, Perry.

No. 26—HOUSEHOLD MANUFACTURES.

P. K. Freas, Philadelphia.
 David Mumma, Dauphin.
 Joseph Konigmacher, Lancaster.

No. 27—MANUFACTURES OTHER THAN DOMESTIC.

Alexander L. Hays, Lancaster.
 David Taylor, Chester.
 William Bell, Juniata.

CLASS IX.—AGRICULTURAL PRODUCTIONS.

No. 28—AGRICULTURAL PRODUCTIONS OF FIELD.

H. N. McAllister, Centre.
 Thomas B. Bryson, Cumberland.
 Jonathan Paxson, Chester.

CLASS X.—FRUITS AND FLOWERS.

No. 29—FRUIT.

Elhanan W. Keyser, Philadelphia.
 William D. Bruckle, "
 James D. Fulton, "
 Thomas Hancock, "
 David Miller, Cumberland.

No. 30—FLOWERS AND PLANTS.

Peter McKenzie, Philadelphia.
 J. E. Mitchell, "
 J. Francis Knorr, "
 George W. North, "
 Jacob B. Garber, Lancaster.

No. 30½—VEGETABLES.

Charles P. Hayes, Philadelphia.
 John Horton, "
 Benjamin Gulliss, "
 Thomas Meehan, "
 Allan W. Corson, Montgomery.

CLASS XI.—STOVES AND WARES.

No. 31—STOVES.

William Bagley, Allegheny.
 L. P. Hiteheock, Washington.
 Lewis Levis, Chester.

No. 32—SILVER-WARE, GLASS AND GLASS-WARE, CUTLERY,
BRITANNIA.

John Lardner, Philadelphia.
 Pearson Cope, Fayette.
 Hiram Hultz, Allegheny.

CLASS XII.—MISCELLANEOUS.

No. 33—BACON AND HAMS.

Edward M. Biddle, Cumberland.
 Simon Cameron, Dauphin.
 James L. Reynolds, Lancaster.

No. 34—INVENTIONS.

John C. Cresson, Philadelphia.
 A. F. Smith, Franklin.
 Jonas R. McClintock, Allegheny.

No. 35—MISCELLANEOUS ARTICLES.

A. S. Roberts, Philadelphia.
 Thomas H. Burrows, Lancaster.
 A. L. Elwyn, Philadelphia.

SPECIAL COMMITTEE.*

James A. McCrea, Montgomery.
 Aaron Clement, Philadelphia.
 Francis Strode, Chester.

The persons named in these Committees are referred to the list of premiums for instructions as to their duties. When the Committees shall meet for the discharge of their duties, if any member be absent he or they who are present will fill up the Committee by the appointment of another or others in the room of those absent. In the report which they make they will note who was absent and who appointed. If all the members of any Committee be absent the Special Committee will appoint others in their places.

FREDERICK WATTS,

President Pennsylvania Agricultural Society.

Carlisle, August 26, 1854.

*Experience has shown that articles which are novel and useful, but not enumerated in any class, are sometimes presented for commendation. They will be referred to this Committee.

Sale of the Clinton County Importation of Short-Horn
Cattle and Sheep.

THE BULLS.

1. Wellington—H. H. Hankins & Co., Bloomington, Clinton county, O., \$3,700
2. Warrior—M. B. Wright, Jeffersonville, Fayette county, O., 1,200

3. Alfred—David S. King, Port William, Clinton county, O., 900
4. Whittington—Solomon Brock, Jeffersville, Fayette county, O., 900
5. The Marquis—W. Bently, Bloomington, Clinton county, O., 625
6. Duke of Cornwall—D. P. Quinn, Sabina, Clinton county, O., 700
7. Billy Harrison—Jesse G. Starbuck, Wilmington, Clinton county, O., 1,500
8. Moonraker (calf)—Thomas Conner, Buena Vista, Fayette county, O., 400
9. Lord Rain 2d (calf)—Daniel Early, Port William, Clinton county, O., 195
10. Young Sir Robert (calf)—Thomas W. McMillan, Wilmington, Clinton county, O., 250

THE COWS.

1. Duchess—M. B. Wright, Jeffersville, Fayette county, O., \$1,675
2. Emma—David Persinger, Sabina, Clinton county, O., 750
3. Hope—William Palmer, Bloomington, Clinton county, O., 1,000
4. Miss Shafto—Jesse G. Starbuck, Wilmington, Clinton county, O., 650
5. Dairy—Jesse G. Starbuck, Wilmington, Clinton county, O., 475
6. Familiar—Jesse Pancake, Frankfort, Ross county, O., 550
7. Sunbeam—Thos. L. Carothers, Wilmington, Clinton county, O., 500
8. Young Emma—A. Rombach, Wilmington, Clinton county, O., 300
9. Miss Walton—John Hadley, Clarksfield, Clinton county, O., 325
10. Princess—Hadley & Hawkins, Clarksfield, Clinton county, O., 1,060
11. Moonbeam—Henry Kirkpatrick, Jeffersville, Clinton county, O., 500
12. Lady Jane—David Watson, Milford Centre, Union county, O., 225
13. Lady Whittington—W. Reed, Bloomington, Clinton county, O., 300
14. Strawberry—James Fullington, Milford Centre, Union county, O., 675
15. Louisa—James R. Mills, Bloomington, Clinton county, O., 300
16. Jessamine—J. O. B. Renick, Shadeville, Franklin county, O., 475
17. Victoria (no pedigree)—D. Persinger, Sabina, Clinton county, O., 1,000
18. Queen (calf of Victoria)—H. S. Pavey, Leesburgh, Highland county, O., 425

SOUTH DOWN SHEEP.

- 1st Buck—R. R. Seymour, Bainbridge, Ross county, O., \$120
- 2d " Thomas Blackstone, Bainbridge, Ross co., O., 95
- 3d " Jephtha Perrill, Bowensville, Ross county, O., 100
- 1st Ewe—Thomas Blackstone, Bainbridge, Ross co., O., 70
- 2d " R. R. Seymour, Bainbridge, Ross county, O., 70
- 3d " Thomas Blackstone, Bainbridge, Ross co., O., 60
- 4th " H. S. Pavey, Leesburgh, Highland county, O., 55
- 5th " John Hadley, Clarksfield, Clinton county, O., 70
- 6th " Thomas Blackstone, Bainbridge, Ross co., O., 55

THE COTSWOLDS.

- 1st Buck—Jephtha Perrill, Bowensville, Ross county, O., \$70
- 1st Ewe—Thomas Blackstone, Bainbridge, Ross co., O., 85
- 2d " R. R. Seymour, Bainbridge, Ross county, O., 85

SHEPHERD DOGS.

A dog, slut and five pups were sold. John Hadley, of Clarksfield, Clinton county, bought the Slut for \$51, and one Pup for \$36. The Dog was sold to A. R. Seymour for \$30, and the other four Pups for \$19, \$12, \$12 and \$10 50 each.—*Ohio Farmer.*

Self-Regulating Windmill.

Daniel Halliday, a mechanic in an obscure country village, Bellington, Connecticut, has done what the world of mechanics have sought for in vain for centuries. He has invented and put in successful operation a Windmill with self furling sails. The mill built by him has five feet wings, that is, the diameter of the wind-wheel is ten feet, and it has been in operation for six months without a hand being touched to it to regulate the sails. It ran fifteen days at one time without stopping day or night, and it has stood through hard gales; the beauty of the improvement is, that it does stand still when the wind rages hardest, with the edge of the wings to the wind, and as it lulls they gradually resume their position for a gentle breeze. It is so contrived that nothing but a squall of great severity falling upon it without a moment's warning can produce damage.

The mill mentioned has drawn water from a well twenty eight feet deep, one hundred feet distant and forced it into a small reservoir in the upper part of the barn, sufficient for all farm purposes, garden irrigation, "and lots to spare."

The cost of such a mill will be \$50, and the pipes about \$25. It is elevated on a single oak post a foot square, the turn circle being supported by iron braces. The wings are made of one longitudinal iron bar, through which run small rods; upon these rods narrow boards half an inch thick are fitted, holes being bored through from edge to edge, and screwed together by nuts on the ends of the rods. This makes strong light sails, but as will be seen are light fixtures not to be furled or clewed up; but they are thrown up edge to the wind by a very ingenious and simple arrangement of the machinery, which obviates the great objection to windmills for farm use; the necessity of constant supervision of the sails to suit the strength of the wind.

Wind is undoubtedly the cheapest power that a farmer can use, and, notwithstanding its inconstancy, if this improvement operates as well as it bids fair to in the single mill erected, it will be applied to many valuable uses. By windmills swamps may be drained and upland irrigated. What an advantage would be the latter in such a draught as prevails now in many parts of the country, besides the great amount of fertilizing matter in water at all times. The windmill could be used too for all grinding of grain for farm use, driving the washing machine and the churn, pumping the water from the well or spring—often one of the hardest kinds of labor about the house. Liquid manure, and the solid excrement made to liquid, could be sent to a field through leading pipes by the same power.

We do earnestly hope for the success of this improvement—that it will not only be an ornament but a thing of usefulness to many American farmers.

What the Farmer most Needs.

They need organization. They want farmers' clubs, and neighborhood libraries of agricultural books. They need discussion. They need more intercourse, not only in their own town and county, but throughout the state and country, to see and learn what other farmers are doing, and adopt the improvements made by them. They need to become satisfied with their vocation; to get rid of the prevailing notion that farming is necessarily an unmental employment; that is, that the farmer has no occasion to think; has no occasion for education, and never can become wealthy or what the world would call respectable, while engaged in the culture of the earth, and therefore he seeks the first opportunity to escape from an avocation placed under ban not only by all others, but his own class also. The great need of the farmer is, that he shall declare himself independent of all other classes, at least more so than they are of him, and of course he is entitled to engage in any other calling whatever; and if he is a man of toil, that is no reason why he should not be a man of intellect. The great need of the farmer is organization, and this must be accomplished by a few self-sacrificing men, who will undertake the labor of establishing and maintaining farmers' clubs in every neighborhood. Farmers need to drop politics, and take up agriculture. They must talk, and read and think, and they will be sure to act or their children will act for them.

Death of an Agricultural Editor.

Prof. Charles Fox, senior Editor of the Farmer's Companion, died of cholera at Detroit, Mich., on the 24th ult. This occasions a serious loss to the community generally, and to that State in particular.

Remedy for Wheat-Weevil.

In answer to a recent inquiry, we gave it as our opinion that one of the most promising means of avoiding the weevil, was to sow early on good soil, that it might advance towards maturity soon enough to escape the depredation of this insect. Since making this suggestion, we have conversed with a skillful farmer of Western New-York, who lives in the midst of a fine wheat region, (where the soil is rather light and gravelly, but usually produces excellent wheat,) and who has given as his opinion that the severe weather of spring added to the attacks of the insect, has reduced the crop in this region to an average of *ten bushels per acre*, or one half the usual average, which is estimated at twenty bushels. He has just cut a field of the finest wheat that has yielded over *thirty bushel per acre*, and a single weevil was scarcely to be found in any part. This crop was put in just at the close of summer—very early—on ground prepared as follows: A pasture possessing a fair amount of fertility, was well plowed with a double team, and a good dressing of well rotted or compost manure spread over the inverted sod. It was then thoroughly harrowed, to break it fine, and to mix it with the soil—an operation of great importance. The whole was turned under with a gang-plow, without disturbing the inverted sod. The wheat was then sown with a drilling machine. The soil was rather gravelly, not liable to become water-soaked, and none of the crop was winter-killed. This gentleman gives it as his opinion that wheat put into the very best soil prepared in the best manner, and sown as early as the last of summer need excite no apprehension of weevil—he thinks it will be safe. Other wheat, which he harvested this year from ground last year in corn, was half destroyed and he intends to raise none but in the thorough manner above described.

Country Gent.

The Grape Crop.

The season has not been the most favourable for our vineyards. During the last week we have visited some vineyards and made diligent inquiry concerning all, with a view to ascertain the prospects of the coming crop.

Among the vineyards on the hills and slopes in Storrs township, the grapes are fine, and promises rather more than an average crop.

In the neighborhood of Carthage, the Catawbas are badly mildewed. The Isabellas are not seriously injured, though there is still time for them to be spoiled.

There are not many vines in the northern part of Columbia township, but the grapes there are looking well. Mr. Ben. Kettredge, who has a farm near Plainville, has the best vineyard in that neighborhood. He will get nearly an average crop. At Plainville, Judge Cross has nearly two acres of thrifty vines, from which he will get an average crop. The vineyards of Messrs. Collins and Bramble also look well. Mr. Rintz, whose vineyard is near the river road, will have but a light crop this season. Last year Mr. Rintz made five thousand gallons of wine from *five acres* of ground, an unprecedented crop.

One of the largest and best worked vineyards near this city is that of Messrs. Corneau, the celebrated manufacturers of Still and Sparkling Catawba wines. Messrs. Corneau will gather an average crop this season. They make a large quantity of wine, annually, of their own vintage.

On the whole, we believe that the grape crop of 1854 will be something less than an average crop.

Spanish Fowls.

A writer in an English paper recommended the spanish fowl as preferable to any other breed, for the following reasons:

It is decidedly a handsome bird. It is sufficiently numerous to be easily obtainable.

A cross in the breed is easily detected. It is as easily kept as any kind of fowl, and lays a large well shaped egg, and when put on the table is not to be surpassed by any for the quality and delicacy of the flesh.—*Boston Cultivator.*

Black Spanish Fowls.

A writer in the Cultivator commends this breed of fowls for the following reasons: their beauty; ease of obtaining them; ease of keeping them; large eggs; and the quantity and delicacy of their flesh.—We once had a pair of them, and were so well pleased with them that were we to exchange the White Shungais for any other variety, it would be this

Covered and Uncovered Manure.

Having lately perused some account of the experiments made by Lord Kinnaird, reported in the Journal of the Agricultural Society of England, on the comparative value of covered and uncovered manures, it occurred to me that a brief sketch of these experiments and their results might contribute towards fixing in the public mind an impression of the importance of more care, than now generally prevails, in regard to the protecting yard manures and saving them from waste.

In 1851, a field of 20 acres, of very equal quantity, being a rich loam naturally dry and in good hearth, with an exposure to the south, was selected for the experiment, and divided into two equal portions. The manure was applied at the rate of 20 cart loads per acre.

The whole field was planted with potatoes; the seed all of one kind, and planted first and second week in April. All braided well, and showed no difference in growth till the first week in July, when a decided superiority began to manifest itself in the half of the covered yards. The vines on the portion of the field manured from the exposed yards began to decay by the latter end of July, while the other portion of the field still retained its dark green. The crops were taken up on the 1st to the 4th of October, and after careful measurement and weighing of two separate portions in each division, the result was as follows:

WITH UNCOVERED MANURE.				
Measurement.	Tons.	Cwt.	lbs.	
One acre produced	7	6	8	of potatoes.
do. do.	7	18	99	do.
WITH COVERED MANURE.				
Measure ment.	Tons.	Cwt.	lbs.	
One acre produced	11	17	56	of potatoes.
do. do.	11	12	20	do.

As soon as possible after the potatoes were harvested, the field was ploughed and wheat drilled in, at the rate of three bushels per acre. As soon as the weather was suitable in the spring, the whole field got a dressing of 3cwt. of Peruvian guano per acre. During the winter very little difference was apparent; but shortly after the application of the guano, the wheat on that portion manured by the covered dung took a decided lead, which it retained all summer. The whole field was cut on the 26th of August, 1851; the portion manured by the uncovered dung being at least four days earlier than the other. As before, the two separate portions in each half of the field were measured, cut and stacked separately. On the 4th of September each portion was thrashed, the grain carefully measured, and the straw. On account of a wet season the grain was lighterweight than usual, in Great Britain, per bushel. The result of the experiment was as follows:

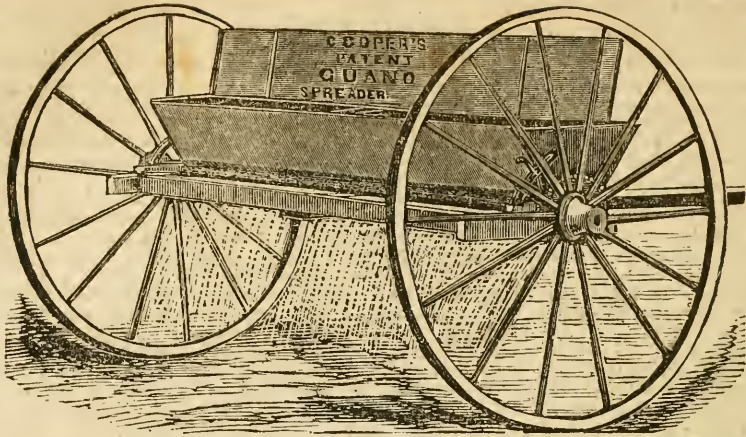
WITH UNCOVERED MANURE.				
Product in Grain.	Weight per bu.	Pro.	in straw.	
acre. bush. lbs.	lbs.		stones lbs.	
1st 41 19	61½		152	of 22
2d 42 38	do.		160	do.
WITH COVERED MANURE.				
1s 55 5	61		221	of 22
2d 53 47	71		210	do.

These and similar experiments have satisfied Lord Kinnaird of the advantages to be derived from having farm yard manures put under cover. They seem so conclusive and instructive on this point, as to deserve to be brought before the farming classes of this country. Not a few of our readers we doubt not, will take measures of some kind to profit by them. It will require but a few minutes to determine the probable profits of protecting any certain amount of yard manure. It appears from the above results that Lord Kinnaird got about 125 bushels of wheat more from ten acres manured with covered dung, than from the ten acres which had been manured with the uncovered. In wheat alone, then, without taking potatoes or wheat straw into account, the difference in favor of covered manure was quite considerable.—*Country Gentleman.*

For the Pip.

In chickens mix a table-spoonful of sulphur with about 3 lbs. of meal, and feed every other day,—perhaps for a fortnight.

The grape culture at the West, particularly in Illinois and Ohio, is rapidly extending, and the first producers will probably realize large fortunes.



PATENT GUANO SPREADER.

The above is an engraving of a Patent Guano Spreader, which, we are assured, has been found on trial to answer the purpose most completely of crushing and distributing guano with great evenness and regularity. The spreading of guano, and the necessary pulverization of its hard lumps, is one of the most unpleasant and tedious operations of the farm. The want of a good machine for the purpose has been a great desideratum, and the patentee of the above has been experimenting for several months with the view to make it as perfect as possible. The construction is very much on the principle of Cooper's Lime Spreader, and it can be regulated to sow from 80 to 400 pounds to the acre.

The patentee is willing to submit it to the test of a full trial, and can produce certificates from those who have already used it.

Paschall Morris & Co., corner of Seventh and Market streets, Philadelphia, are agents for the above Guano Spreader. Price \$35.

More Imported Stock.

The Boston Cultivator of August 12th informs us that the steamer Herman landed at New York on the 2d ult., for Messrs. Morris & Becar, three valuable Short-Horn cows, as follows:

Duchess 66th—bred by Thomas Bates—rich roan; calved October 25, 1850; got by Fourth Duke of York (10167), dam (Duchess 55th) by Fourth Duke of Northumberland (3649). — (Duchess 38th) by Norfolk (2377). — (Duchess 33d) by Belvidere (1766). — (Duchess 19th) by Second Hubback (1423). — (Duchess 12th) by the Earl (1646). — (Duchess 4th) by Ketton 2d (710). — (Duchess 1st) by Comet (155). — by Favorite (252). — by Daisy Bull (186). — by Favorite (252). — by Hubback (319). — by J. Brown's Red Bull.

Duchess 66th was purchased in 1853 at the sale of the stock of the late Earl Ducie, by L. G. Morris and N. J. Becar, for £735 (\$3675), a larger sum than is known to have ever been brought by any other cow. She is of medium size, for the breed, and is almost perfection in the points aimed at by the leading breeders of Short-Horns. A heifer calf of hers, by Duke of Glo'ster, was left in England, being too young for shipment.

Oxford 6th—bred by Thomas Bates—red; calved No-

vember 6, 1846; got by Second Duke of Northumberland (3646), dam (Oxford 2d) by Short Tail (2621). — (Matchem Cow) by Matchem (2281). — by Young Wynard (2859).

Oxford 6th was purchased at the sale of Earl Ducie's stock by J. S. Tanquary, for £215 5s., and was sold by him at the same price to N. J. Becar, of New York. She is a cow of great size and substance, but by no means coarse. We have seldom seen her equalled in fineness and symmetry by one so large.

Miss Belleville—bred by John Mason Hopper—roan; calved February, 1853; got by Belleville (6778), dam (Carnation) by Goldsmith (10277). — (Crocus) by Petrarch (7239). — (Violet) by Forester (3825). — by son of Fleetham (2023). — from the herd of Mr. Whitaker, of Greenholme.

Miss Belleville was engaged of Mr. Hopper by Mr. Becar last season. She will be a decided acquisition to Mr. B.'s herd, as she possesses a strain of valuable blood which is very rare in this country, and is, individually, nearly a model. Her sire, Belleville, was the most remarkable prize taker of any bull ever bred in Great Britain. He took the highest prizes in the class of Short-Horns of the Royal Agricultural Society of England, the Agricultural Improvement Society of Ireland, the Highland and Agricultural Society of Scotland, the Yorkshire Agricultural Society, and after receiving all these honors, capped the climax by carrying a sweepstakes of £70 (\$350) at the Show of the Highland Society at Glasgow in 1850, against twenty competitors.

More Imported Stock.

The ship Antarctic arrived at New York the last of August, and had on board a fine lot of stock for the Kentucky stock importing company, consisting of six Durham cows, eight heifers, one calf, fifty-four Cotswold sheep, eighteen swine, five bulls, and one Cleveland Bay stallion, a fine animal, costing over \$1,000.

Another lot on the same vessel, belonging to Col. Wm. Alexander, of Woodford county, consisted of eight heifers, four cows and three bulls. They all arrived in fine condition, and have been well cared for during the voyage. These additions to our improved stock cannot but be of great advantage to the country.

Lime a Preservative of Potatoes.

We find the following report of experiments in keeping potatoes in the English Gardeners' Chronicle. The experiments were made in a more humid climate than our own, and where greater precautions are necessary to prevent stored potatoes from decaying. There are, however, some localities within the "bailiwick" of the Farm Journal where these hints may be of service:

1. Twelve sacksful of potatoes, lifted October 25th, 1853, stored with lime, the lime being placed in small bundles in the middle of each sack. Tubers all preserved; whereas, some of the same potatoes, stored without lime, were much affected.

2. Fifty bushels of potatoes, dug up towards the end of October, were pitted with three bushels of quick-lime, the latter being placed at the bottom of the pit, and covered over with a thick layer of Gorse. On opening the pit it was found that the diseased tubers did not amount to more than two dozen. Tubers stored in the ordinary way, in pits without lime, were almost entirely destroyed by disease.

3, 4, 5. Potatoes stored with and without lime quite untouched by the disease.

6. Roots stored in a large chest or box with lime, and the latter being placed in a small clothes-basket, and covered over with faggots. On opening the box the tubers were found quite healthy, while some that had been kept in a cellar without lime were much diseased.

7. Twenty bushels of tubers were placed in a large bin with three bushels of lime, the latter forming a stratum at the bottom, and covered over with a thick layer of coarse cinders. At the end of three months the roots were found to be quite sound, while another lot which had been put into another bin without lime were very much diseased.

8. Potatoes housed in sacks, one or two large lumps of lime being put into each sack, tubers quite dry, and all preserved.

9. Potatoes first dried by exposure on a gravel walk to the heat of the sun, and then stored away in large boxes with lime, all healthy. Tubers housed in their natural condition become diseased.

10. Potatoes housed with lime, all healthy.

11. Same result.

12. Several bushels of potatoes were pitted with lime, and when examined, at the expiration of several months, were found to remain untouched by the disease. Roots pitted without lime became quite rotten.

13. Two or three hundred bushels of potatoes were divided into four equal lots. Three of these were pitted with lime, the other in the ordinary way. In the first of the three lots stored with lime, the lime was placed at the bottom of the pit, with the proper precautions; in the second it was thrown into a conical heap in the centre of the tubers; and in the third and last, it was placed on top of the potatoes, being separated from the latter by a layer of brushwood, &c. On examining the tubers at the end of some months, those in the first pit were found to be much diseased, while those contained in the other three were nearly healthy. "The best results," says this correspondent, "I am disposed to think were obtained by placing the lime on the top of the tubers, and this is the plan I intend to follow."

Book Notices.

"THE MODERN HORSE DOCTOR," by George H. Dadd, Boston, published by John P. Jewett & Co. We have received a copy of the above work, which, from the examination we have given it, appears to us the best practical treatise on the diseases of horses we have yet seen. It contains numerous illustrations, is written in plain, practical style, embracing the author's own extensive experience, with the most recent and approved methods for preserving the health and curing all the diseases horse flesh is heir to. In another column we give part of the chapter on bots.

The author discards many of the cruel and inhuman practices often applied in treating diseases of horses, and urges more scientific, rational and successful methods.

We do not know if others have been as unfortunate as ourselves with works on farriery, but when we have had occasion to refer to them for a sick horse, it seems nearly always to have happened that all the diseases and symptoms ever heard of or thought of were minutely described, except the particular case or cases then requiring attention and about which we wished information.

Dadd's Modern Horse Doctor does not seem liable to the same objection, and for the young student in veterinary science, no less than for the practical farmer, who wants a really practical work for daily reference, we think it can be recommended without hesitation.

A list of receipts used in veterinary practice is given at the conclusion of the work with directions for preparing. It is in octavo form, containing 432 pages.

Imported Cattle and Sheep.

In our last we gave the price list of a recent importation of Short-Horns into Warren county, Ohio. In Clinton county, Ohio, there has recently been a public sale of Durhams, South Downs and Cotswold sheep and shepherd dogs, belonging to the Clinton county association. It was held at Wilmington and resulted as follows:—Seven bulls sold for \$9,525. H. H. Hankins & Co., Bloomington, Ohio, paid \$3,700 for the Short-Horn bull Wellington. This was the highest figure, the lowest being \$625. Three bull calves sold for \$845. Seventeen cows sold for \$10,760, and one heifer calf for \$525. Three South Down bucks brought \$315, and six ewes \$380. One Cotswold buck \$70, and two ewes \$170. A shepherd dog and five pups sold for \$170 50. The cost of the importation up to the time of sale was \$17,000, and the sales amounted to \$22,660 50.

From the above and other similar results, it appears that fine stock may be imported into the United States, even at the present high prices, to good profit. With the increased experience of caring for their comfort and proper management on board ships, and selecting the season of mild weather for the voyage, the risk is much diminished from what it was a few years ago. It has been found there is a real economy in employing a regular herdsman to attend them on the passage, instead of leaving it to the mere chance and irregular attention of the steerage passengers or sailors. Many of the recent arrivals have come off ship in good condition. We would however not advise, except under very special circum-

stances and advantages, any farmer to undertake by himself the importation of blooded stock. There are ten chances to one he will be cheated in the blood, or lose by the operation. Some of the best blood of England is now in this country, and we would greatly prefer the importing of stock should be made by companies, where the risk would be divided, and a qualified judge of stock specially deputed to make the selections.

What we most fear is that the present high prices may have the effect to induce unprincipled persons to purchase and collect stock to send to this country of *impure* blood and *imperfect* pedigrees. We have reason to believe some of Whitaker's importations a few years ago, which were sold at public sale near Philadelphia, contained animals of this description. A good pedigree is all important, as it affords a reasonable certainty that the offspring will inherit the qualities of the dam or sire. Grade animals sometimes look like thorough breds, but their progeny is not reliable. Neither is the mere fact of having a pedigree, and a long one too, sufficient. It must be a *good* one, tracing the descent not merely from a herd-book animal, but from such as are *distinguished* for superior qualities. This is the secret of the high prices of the much sought for Bates blood, and the Duchess and Princess family of Short-Horns. Their acknowledged superiority in England is the result of the long continued care and skill, for many years, of T. Bates. Other animals equal them in length of pedigree, but like other patents of nobility do not represent distinguished ancestry or qualities. There are unworthy scions from *noblemen* so called, as well as noble cattle, and *worth* makes the *real* value in both cases.

For convenience of future reference, we give in another column the names and residences of the purchasers of the Clinton county association. None of the arrivals went out of the State.

Valuable Queries.

[We ask the attention of the farmers of Pennsylvania to the following circular of the Montgomery County Agricultural Society. If it is responded to, as we trust it will be, the information thus obtained will be of great advantage in enabling the inquirers after practical results from the use of different manures, to select such only as may insure a profitable return, and save them from becoming the dupes of arrant knaves who are palming worthless trash on many unsuspecting victims. We hope to have the pleasure of laying this laudable effort before the readers of the Farm Journal:]

Circular.

In view of the importance to Farmers of an early acquaintance with the fertilizing properties of substances offered for sale as chemical or concentrated manures, such as Phosphate and Super-Phosphate of Lime, improved or prepared Guano, Fertilizers (so called) of which the composition is unknown, and other manures of the same class under other names; and as their value can only be determined by experience,

Therefore, the Montgomery County Agricultural Society respectfully requests of the friends of Agriculture, who have used or are about to use any of said manures, that each will reply to the following Queries as promptly

as he may deem proper, and furnish in addition such other information not specially enquired after as he may believe necessary to the forming of a correct judgment of the value of such of said substances as he shall have used, in order that the information contained in the answers collectively, which the Society proposes to publish, may be sufficient to prevent the sale of the inert and worthless, and to encourage the purchase of those that it shall be found profitable to use.

JAMES A. M'CREA,
ALAN W. CORSON,
Committee.

1. What is the name of the manure used, and the name of the preparer or vender?
2. The quantity used per acre and how applied, and cost per ton?
3. The crop to which it was applied, and the result compared with that similarly situated but not so manured?
4. The kind of soil to which applied, i. e. clayey or sandy, heavy or light, upland or lowland, and on which most effective, if known?
5. The previous crops and whether lately manured, and if so, to what extent?
6. The effect on after crops so far as known?

Please to direct the answers to ALAN W. CORSON, Corresponding Secretary of the Montgomery County Agricultural Society, Plymouth Meeting Post Office, Montgomery county, Pa.

Work for the Month.

FARM.—This is the month the "huskers" generally commence their work, and in many cases finish it also. Where seed corn has not been previously selected in the field, care should be taken in husking to lay by the largest and best ears for that purpose. A good way to preserve it from mice is to hang it by the husks to rafters, or other convenient places. Continued care in selecting the earliest and best corn for seed will be well repaid in a few years by improved general quality. Corn is liable to heat in the crib if husked too early, particularly in warm moist weather. The best way to guard against this is to let it "cure well" in the shock, but here danger is to be apprehended of cold fingers in late huskings. Advantage will be found in putting only sound, well ripened corn in the crib, leaving the "nubbens" and unripe ears for stock. Potatoes, if not previously gathered, should be "picked" without delay. The ground should be immediately prepared for grain, and in order to avoid the delay of manuring previous to plowing, it may be subjected to a top-dressing of well rotted manure or superphosphate of lime. If the timothy has not been sown it should now be done. Five quarts of seed per acre are not too much, to be followed by clover in early spring. If there is leisure plow the corn ground for next season's crop. Plow deeply, and where the subsoil is clay follow with a subsoil plow. At leisure times collect leaves from headlands, coarse grass, and other articles suitable for bedding stock and making manure in the winter.

VEGETABLE GARDEN.—Towards the latter part of the month, cabbage, cauliflower and lettuce sown last month may be transplanted into frames to be kept through the

winter, for which purpose procure boards about one foot wide, of the requisite length to hold the desired number of plants and to suit the sash, and arrange them in any sheltered situation. They should be nailed to short posts at the four corners, and be one foot high at the back and about six inches in front. Shutters or straw mats should be provided to guard against extreme cold. Bank up the earth on the outside of the frame. Plants kept in this way should have air through the winter on all fine days, so as to harden them by exposure. If kept too warm they will continue growing and become tender. Continue earthing up celery on fine and dry days. Trim out growing crops of spinach and kale. Clean and dress beds of aromatic herbs by cutting out decayed stems, and digging between such as will admit of it. If the ground is poor, top dress with rotten manure. Onions, if not already planted, should be set out to make offsets for early spring use. Seed of rhubarb may now be sown. Dig up horse-radish for use as wanted. Collect pumpkins and winter squashes; also all cabbage stumps and other refuse stuff from ground now vacant, and haul to pig pens or compost heap. If the soil is at all stiff, it should be dug or plowed up deeply before the approach of winter.

FLOWER GARDEN.—All plants that are tenacious of frost should be attended to the early part of this month, and got ready for winter quarters; all plants intended to flower in the window should be potted immediately, and placed in a cold frame and shaded from the sun for a short time to take fresh root. When they have become established give air freely. Sow flower seeds on a south border the early part of this month, to remain out over winter. The following are suitable for that purpose:—Candytuft in variety, Clarkias do., Gillies do., dwarf German Larkspur, Erysimum Perofskianum, Escholzia Californica, Coreopsis Bicolor. When hard weather sets in, these should be covered with dry leaves or long litter. Tulips, hyacinths, &c., should be planted now to ensure success in blooming. The soil must be rich. If the soil in the bed is naturally poor, it will be best to take it out and fill in with good soil to the depth of a foot. Plant the bulbs in rows nine inches wide, four inches apart in the rows, and from three to four in depth. It makes a very pretty bed if crocuses and snow drops are planted around the bed, next to the edging, hyacinths next, and tulips in the centre. On the approach of hard weather, the bed should be covered with several inches of leaves. Mow grass plats. After they are cleared, they would be much improved by being well rolled; treated in this way they would look well the remainder of the season.

Orange Water Melon.

This vegetable curiosity is a native of China, and if what is said of it be true, the seed will be greatly in demand next season. The rind peels off like an orange, and leaves the whole of the rich luscious pulp, which may be divided into parts, and is most delightfully flavored.

Mr. Peabody, of the "Soil of the South," has raised it the present season, and if he has any seed to spare the Farm Journal will be most happy to receive a part, and put it in the way of distribution and trial.

Corn Sowed for Fodder.

We have continued to urge from time to time in our Journal the great advantages of sowing corn for fodder, its nutritive character, its enormous yield per acre, and its value especially in a time of drought when grass is almost destroyed. Those who have followed our advice in this respect last spring will now reap the benefit of it.

The following in the Valley Farmer, from an address by Col. Pickering before the Essex County Agricultural Society many years ago, is very pertinent to the present season, and shows his sound judgement in agricultural matters and great foresight:

"Every farmer knows how eagerly cattle devour the entire plant of the Indian corn in its green state; and land in good condition will produce heavy crops of it. Some years ago, just when the ears were in the milk, I cut close to the ground the plants growing on a measured space, equal, as I judged, to the average product of the whole piece; and found that, at the same rate, an acre would yield twelve tons of green fodder; probably a richer and more nourishing food than any other known to the husbandman. And this quantity was the growth of less than four months.

"It has appeared to me that the sort called sweet corn yields stalks of richer juice than the common yellow corn. It is also more disposed to multiply suckers—an additional recommendation to it when planted to be cut in a green state for horses and cattle, and especially for milk cows; and at the time of planting may be so regulated as to furnish supplies for food just when the pastures usually fail. I am inclined to doubt whether any other green food will afford butter of equal quality."

Col. Pickering was wont to speak honestly, when others regarded him as good authority. Many things which appeared to him years ago, as important agricultural truths, have since proved such, and among others this for planting corn for green fodder. In connection with Col. Pickering's remarks that the time of planting may be so regulated as to furnish supplies of food just when the pastures fail, we would inquire, inasmuch as corn stalks and leaves, well cured, are an excellent winter food for cattle, whether the time of planting could not be regulated with some reference to the prospective wants of the succeeding winter. We accord most heartily with the sentiment of an excellent article in a former number of this paper, by our worthy predecessor, in which it was shown that the farmer should have the general plan of the summer's campaign made out before hand, should study in the winter, lay his plans for the season, and then carry them out in the summer. We suppose, however, there are exceptions to be made. The clover on a particular field may have failed, or it may have become apparent in time for sowing corn that the hay crop is going to be short. The farmer therefore will find it convenient, with regard to certain fields, not to have his mind unalterably made up till as late as the end of June. To what extent corn fodder is destined to take the place of hay, we are not certain. That it affords an excellent fall feed for dairy purposes there is no doubt; and it is clearly ascertained that it may, on some farms at least, be profitably grown for winter fodder. Much of course depends on the character of the farm,

and something we suppose may depend upon the season; we see no reason why, in case of the prospect being dark at the end of June for fall and winter food, the farmer who has land fit for the purpose should not thrust in a few acres for corn fodder, when otherwise he would not, to be fed out green in early autumn or to be cured for winter, as the case may seem to require.

The merchants turn quickly in an emergency. To a limited extent, very limited we confess, and yet not so limited as to be unimportant, the farmer, for aught we can see, may do the same. We advise the farmers to look at this matter.

The Best Kind of Grass for a Dry Season.

One of our friends and subscribers from Huntingdon county, F. Schreiner, writes us for our opinion of the best kind of grass to suit a season of extreme drought like the present.

The capacity of any crop to bear drought depends very much on the condition and depth of soil. Red clover, from its long and vigorous tap root, which pushes down sometimes two or three feet, is a very meliorating crop on the soil, and where the subsoil is open does not suffer so much as others in a dry season; neither do rye grass and orchard grass, from their very rapid growth, fail so entirely as timothy or green grass. (The great remedy, however, for dry seasons is *deep* plowing and subsoiling, and if the very severe and extensive droughts of the present year, perhaps more general than ever before known, and a loss to the country, it is thought, of two hundred millions of dollars, should have the effect of thoroughly awakening farmers to this one fact, the loss will be a gain. It makes us feel almost sick to see, as we have done within a few days, plowing going on for the wheat crop at an average depth of not over two and a half to three inches, and where the ground perhaps will not be plowed again for many years.

Strawberry Question.

In reference to the variations in the strawberry blossoms being *permanent characteristics*, and belonging to one or the other of four distinct forms of inflorescence, which, according to the Cincinnati Horticultural Society, are fixed and unchangeable, Dr. Kennicot, in the *Prairie Farmer*, says:

"In the summer of 1852 we planted a bed of Burr's new pine. All the plants died from the bed except three or four. These did not produce a berry in the summer of 1853. The present spring the bed is very well covered with the plants from these four. Of course there ought to be only four different varieties of pistillate organization to say the least. *There are more than ten.* Where did they come from?"

The Doctor further says: "We expect it can be substantiated in a court of justice upon as good evidence as ever hanged a man, that strawberries have been produced without impregnation."

Bots.

The bots, generally speaking, are not so troublesome to horses as people seem to suppose; for it is very rare, in making post mortem examinations, that we do not find more or less in the stomach. We have heard some wonderful stories related of the bots burrowing through the

walls of the stomach. This we deny *in toto*, at least while the horse is alive. The little creature is too comfortably located to attempt its exit into a cavity where its destruction would be inevitable. If it be about to vacate its stronghold, instinct teaches it the most safe and expeditious route, which is the alimentary canal. We do not deny that bots are found in the abdominal cavity, for the moment the horse dies all the various organs are subject to the laws of decomposition. Chemical action, which, during life, was regulated by the vital forces, now assumes the supremacy. Those powerful solvents termed the gastric fluids, which had previously dissolved nothing but food, now act on the stomach itself, and hasten its decomposition; and what had previously been good food for bots is now their bane, and they must themselves in turn be destroyed unless they escape from it. The peristaltic motion of the alimentary canal, which, during the existence of the horse, was so favorable to their exit by that channel had ceased. They are too well acquainted with the intricate, labyrinthian outlet (their usual route,) to attempt its passage. No. The same energies of one eternal mind,

"Pervading and instructing all that live,"

suggests the only means of escape. The stomach now offering but little opposition to them, being partly decomposed, they burst their prison-house, and hence are found in the abdominal cavity. And here they may be said to have jumped "from the frying pan into the fire." We are frequently called upon to visit sick horses, said to have the "bots," when there is no more connection between them and the disease than there is between the horse and the anvil on which his shoes are forged. It is all very well for us to say "a horse has the bots," and prescribe some medicine for their expulsion; but there is no practical advantage gained; neither is the horse benefitted by such decision or treatment. For most of the remedies used as vermifuges would kill the horse, while the former would not be injured in the slightest degree. Mr. Bracey Clark says, "The slowness of the growth of bots, and the purity of their food, which is probably the chyle, must occasion what they receive in a given time to be proportionably small; from which, perhaps, arises the extreme difficulty of destroying them by any medicine or poison thrown into the stomach. After opium had been administered to a horse laboring under a locked jaw for a week, in doses of one ounce every day, bots were found in the stomach perfectly alive. Tobacco has been employed in much larger quantities in the same complaint, and has also been continued without destroying them." Mr. White, V. S., says, "While making experiments on glanders, I found living bots in the stomach of a horse, though he had been taking for many days arsenic and corrosive sublimate."* Mr. Blaine says, "that he has kept them alive for some days in olive oil, and in oil of turpentine, and that even the nitrous and sulphuric acids do not immediately destroy them." The history and habits of the bot are thus alluded to by Mr. Clark: "Bots are not, properly speaking, worms, but the larvae of the gadfly,

*Very nice articles to experiment with, truly! And yet we are sorry to say that experiments—for they cannot be called anything else—are daily made in this city with agents whose therapeutic powers are so diversified that the wisest of the faculty have never ventured to fix limits to their action. They are like the torch in the hands of an incendiary. The healthy parts must suffer equally with the diseased.

which deposits its eggs on the horse's coat in such a manner as that they shall be received into his stomach, and then become bots. When the female fly has become impregnated, and the eggs are sufficiently matured, she seeks among the horses a subject for her purpose, and approaching it on the wing, she holds her body nearly upright in the air, and her tail, which is lengthened for the purpose, carried inwards and upwards. In this way she approaches the part where she designs to deposit the eggs, and suspending herself for a few seconds before it, suddenly darts upon it, and leaves the egg adhering to the hair by means of a glutinous liquor secreted with it. She then leaves the horse at a small distance, and prepares the second egg; and poisoning herself before the part, deposits it in the same way; the liquor dries, and the egg becomes firmly glued to the hair. This is repeated by various flies, till four or five hundred eggs are sometimes deposited on one horse. They are usually deposited on the legs, side, and back of the shoulder—those parts most exposed to be licked by the animal: in licking, the eggs adhere to the tongue, and are carried into the horse's stomach in the act of swallowing. The bots attach themselves to the horse's stomach, and are sometimes, though less frequently, found in the first intestine. The number varies considerably; sometimes there are not half a dozen, at others they exceed a hundred. They are fixed by the small end to the inner coat of the stomach, to which they attach themselves by means of two hooks."

Cure.—It has been remarked that no effectual remedy has ever been discovered for the cure of bots. Yet we venture to say that, in nine cases out of ten, if the animal be permitted to run a short time at grass, when the bot has attained its full growth, and is capable of exercising an independent life, it will detach itself from the stomach and pass off with the excrement. We have frequently brought away large quantities of bots during the administration of the following articles, and we do not hesitate to recommend them as safe and efficient. As a vermifuge, they are unrivalled; at the same time they restore the tones of the digestive organs.

Compound for the Expulsion of Bots.

Powdered male fern,.....	2 ounces.
" poplar bark,.....	4 "
With mustard seed,.....	2 "
Common salt,.....	6 "
Sulphur,.....	3 "
Powdered aloes,.....	1 ounce.

Mix; divide into eighteen powders, and give one, night and morning, in the food.

The animal should have a daily allowance of green food if the season permits.

The nit or egg can easily be got rid of by greasing the horse's hair, and then rubbing it with a coarse cloth, or by applying warm water, which loosens their hold on the hair.

A Wool Grower's Method of Improving his Stock.

[The following communication is from one of the most distinguished wool growers of Western Pennsylvania. We shall be glad to hear more particularly about his fine flock of sheep, as well as about his fine Durhams, improved swine, poultry, &c.]

MR. EDITOR:—At your request I will communicate to you some facts in regard to my flock, which has obtained such a reputation throughout the United States, and has more than realized my most sanguine hopes. When I first engaged in the business of wool growing, I soon discovered that fine wool could be sold for more per pound than coarse; also, that four pounds came to more than two. The problem was how to get four pounds in place of two, and keep up a fine silky fibre in order to obtain the extra price. I thought the most reasonable plan was to keep the best of my flock each year, and also to purchase the best sheep from flocks known to contain the best and purest blood sheep to be found regardless of cost. I soon learned by experience that leading wool growers would not sell their best sheep unless they obtained a fair price for them, preferring to sell the refuse at reduced prices; and to get such as I wanted I had to pay for them. I am equally interested in Spanish and French sheep, but prize the latter most, and think they will take the lead among wool growers. My sheep are very large, handsome in form, long and fine quality of wool, fleece very compact and heavy; many of them have a very dark surface on the wool. I will send you an engraving this fall or winter of one of my Durham cattle. Respectfully, &c., J. S. GOE.

Tippecanoe, 4½ miles east of Brownsville, }
Fayette county, Pa., August, 1854. }

For the Farm Journal.

Plain Facts for Farmers.

MR. EDITOR:—The following plain facts are known to every intelligent farmer in the land, and yet, strange to say, even in Chester county, where we hold ourselves up to the world as model farmers, one-half of us pay little or no attention to them. Why it is that such a singular indifference to our welfare should prevail so generally among us I shall not pretend to explain, further than that I myself habitually neglect attending to many of these facts, though at the same time perfectly aware that I am a daily loser to a considerable amount by this very neglect.

Perhaps it may stir up the negligent and indifferent by giving place in the Farm Journal to these

PLAIN FACTS FOR FARMERS.

Feeding cattle and milch cows, particularly, should be protected by stabling or otherwise from the cold and storms of winter. The cows will give one-third more milk from the same food, while your steers will consume twenty per cent. less feed, and leave the barnyard in better condition in the spring than if unprotected.

Horses should be kept in warm but well ventilated stables. Every horse should have his blanket on at night; an old piece of rag-carpet will answer a good purpose when you are not disposed to incur the expense of a regular horse-blanket. At any rate have a covering of some kind for your horse at night, and use the curry comb freely by day, and with ordinary attention to his other wants, you will have the services of a good horse for twenty to twenty-five years instead of eight or ten, as is generally the case.

Make it an invariable rule to cut all your hay, straw and fodder, before feeding it to your stock. Your cattle will thrive better on less food, and you will save not less

than twenty per cent. of your whole winter's consumption.

Devote every year one acre at least of your farm to the cultivation of roots as winter feed for your stock. A good root crop "will pay" better for this purpose from one acre than three times that quantity of land devoted to grain or hay.

Keep your poultry warm through the winter; and with judicious feeding (every farmer knows how to feed his his poultry if he would only take the trouble to do it,) you can have about as many eggs during the winter as at any other season of the year.

Preserve carefully the droppings from your hen-roosts, and by the mixture of a little plaster of Paris as you put them away in a dry place, you will have a manure very little inferior to the best Peruvian guano, and at one-tenth the cost.

Never allow a stick of wood to be put on your fire, or in the stove, that has not been cut and piled up under your wood shed from three to six months before hand. You will be sure of good fires with no greater consumption of wood, and be spared the infliction of a "smoking house and a scolding wife."

Have a convenient tool-house on your premises where every tool and implement *must* be returned immediately after being used. You will always know where to look for your tools when you want one, and ordinary farm implements will last nearly a lifetime. I have implements on my farm that have been in constant use for thirty-two years, and are in good condition yet.

Keep a subsoil plow and use it, at least, every time you break up your sod ground, and previous to putting in your wheat crop. It will pay for itself in one season. The subsoil plow should only be used in soils that have been under-drained, or are naturally not wet. The best subsoil plow, in my opinion, is Roger's pattern with one handle.

Cultivate no more land every year than you can manure thoroughly. Half a field well manured will produce more abundantly, and at less cost of labor, than a whole field will that is only half manured.

Subscribe for the Pennsylvania Farm Journal.

Chester county, Sept. 8. AN OLD FARMER.

For the Farm Journal.

Crops in Lycoming County.

Our wheat in the lower end of the county was very poor; it was injured by the fly, and just before harvest by the wheat midge; many fields of fine looking grain were scarcely worth cutting, except where the farmers sowed Mediterranean, and where it was put in late it was nearly good for nothing. The rye is good, except the "buckwheat rye"—the midge destroyed it altogether. The oats was a good crop. Corn was very much injured by the drouth—the late planting looks the best. Wheat is worth \$2 per bushel for bread, seed \$2 25 to \$2 37½; rye \$1; oats firm at 40 cents, farmers holding on for 50 cents on account of the unfavorable prospect of the corn crop and the great use that *must* be made of it for bread this winter; corn selling at 75 cents. The buckwheat looks as if it was a good deal injured—may be half a crop. The potatoes for the same reason poor. Our farmers are afraid to sow much wheat on account of

the midge—will put in more rye. There will be very little smooth wheat sown—Mediterranean is all the rage and that to be sowed very early. Yours, in haste,
Muncy, Pa., Aug., 1854. B. M. ELLIS.

P. S.—A shower for 15 minutes last night—the first one for a long time.

For the Farm Journal.

Allen's Mowing Machine.

MR. EDITOR:—In compliance with your request, as stated in the last two numbers of your Farm Journal, I have to say that I used one of Allen's patent mowing machines during the past harvest, manufactured by Lee, Peirce & Thompson of this county, and its performance exceeded my most sanguine expectations. No matter what kind of grass, heavy or light, lodged or standing, it will cut it better than it can be cut with the scythe. I tried it on some timothy stubble, which had been topped for some length of time, and was very dead, and it shore it off as clean as if it had been young timothy. As to the number of acres it will cut in a day, I, without any extra exertion, cut from eight to ten, and if it were pushed a little it would go fifteen. There is no side draft, and it is about as hard for the team as plowing stubble ground. They are very simple and strong in their construction, there is nothing liable to get out of order except the knife, and that very seldom; with care they last a number of years. I cut about sixty acres with mine the past harvest, and it is very little worse of the wear; the knives may last several years yet with the same usage.

As it was something new in this part of the country, there were hundreds come to see it perform, and all seemed pleased with it, and found no fault whatever with the machine or its work. Yours, &c.,

PETER DAMPMAN.

Honeybrook, Chester co., Pa., Aug., 1854.

The Crops in Warren County.

J. L. DARLINGTON,—Sir:—I feel it a duty to you, as editor of the only Farm Journal in our State, and to the farming community, that the propagation of sound, unbiassed information should be properly circulated through the columns of your excellent Journal. The reports that flow through other journals, based upon the limited, not to say often prejudicial minds, as regards the weather and prospects of crops, the latter particularly, yours should at least be standard source.

Our season has been uncommonly dry and warm, producing light crops. The spring, though unusually late, was followed by genial weather, that clothed the grass of the fields with hues of the deepest green, and hopes were entertained of an unusual yield of grass; indeed we thought the harvest would teem with unbounded luxuriance and plenty. Alas! the highest hopes then entertained are sadly blasted and withered, like the parched fields and sunburnt meadows. There will not be half an average crop. Were it proper, I would say there is something truly sublime in the moral thus taught. How often we suppose that to-morrow will be as to-day, that the plenteous hand that last season filled our barns with plenty will do so next, and much more abundantly. And so on, forgetting that there is an over-ruling Providence pervading and predisposing all things for his own glory

and our good. Such distinctive features in the season present the most convincing facts, and prove clearly the all wise designs of the Governor and Ruler of the Universe. Philosophers may trace effects back to causes made to them manifest, but the great first cause is truly least understood, and some may lay the cause to the total eclipse, and so on. Paul may plant and Appollos may water, but God alone giveth the increase. Then is to the faithful who unerringly follows true principles and the dictates of reason, a clear advantage physically as well as morally.

What beautiful adaptation. The skillful husbandman will have his recompense in an equal ratio to his observance of the laws that regulate all animate and inanimate things. The slothful, indolent and unobservant farmer lays it all to the season, and contemns the government of all; while the truly scientific farmer will be gratified with the greater contrast thus made more apparent under the dispensation of an unfruitful season. He plows deep, harrows firm, keeps a vigilant eye and hands ever ready to meet, and as far as possible, counteracts the seasons of drouth that so frequently occur here; while he fails never to restore to the grateful earth the residue or excrementious parts of all plants consumed or used on his farm, and within his reach. While the indolent and unskillful farmer grieves his very life at the events of providence, and fears to stir or even hoe his potatoes, least the drouth should eat them up. How unwise! The greater drouth the still greater necessity of pulverising and keeping the soil open to the sensitive impressions of the dews constantly distilling on the ever recurring day. You can discover in the rail road car, if it is within the limits of proper care for travelling safely, one of those characters from the other. This is truly gratifying to the enlightened farmer and philanthropist. It is remunerating; to the pleasure some profit is added. I had only thought of saying that the dry and hot summer we have had has affected crops of all descriptions very seriously; but the spring wheat is far better than expectations, and now whitening and ready for the harvest. Some have cut. Winter wheat has suffered from winter killing.

In future it would be wise to endeavor to meet similar seasons by sowing a substitute for hay, corn or oats. Indeed all would do well to cut and secure in good season the straw and stalks, and husband them carefully. If the farmers would adopt more generally a rotation of crops they would secure against failures, in hay crops in particular. In passing through our county, I observed one man haying who had more than twice as much hay on the same ground as his neighbors, and thought, for the sake of gratifying my curiosity, I would ask him why it was. O! I don't know, says Samivel—he was a cannie Scot—I generally give ten or twelve quarts of seed, when the neighbors say they give only sax, and that no a' I seed down a new piece every year. Right, says I, you can never give too much seed for grass. If I do, says he, I can jist plow it down.

I should be glad to hear from you, and assist in any way the circulation of your valuable and reliable Farm Journal. Our county takes more agricultural papers than any of its population in the State, but have got in the habit of taking those from the Empire State on the

same score of many other things. We seem to have had no choice.

Yours,

P. FALCONER.

Warren, Warren county, Aug., 1854.

Domestic Recipes.

TEA CAKE.—One quart of sour milk, half a tea cup of molasses, a tea spoonful of saleratus; break into the milk two eggs, a little ginger, a little salt, and nutmeg; stir in flour till it becomes a thick batter; then turn it into a well greased pan, and bake twenty minutes.

CREAM CAKE.—One pound of flour, one pound of sugar, half a pound of butter, half a pint of cream, four eggs, one pound of currants, a tea spoonful of saleratus, a table spoonful of rose water, or a glass of brandy; spice to your taste.

APPLE SNOW.—Put twelve good tart apples in cold water, and set them over a slow fire; when soft, drain off the water, strip the skins off the apples, core them, and lay them in a deep dish. Beat the whites of twelve eggs to a stiff froth; put half a pound of powdered white sugar to the apples, beat them to a stiff froth, and add the beaten eggs. Beat the whole to a stiff snow, then turn it into a dessert dish, and ornament it with myrtle or box.

PUMPKIN PIE.—Stew the pumpkin dry, and make it like squash pie, only season rather higher. In the country, where this real yankee pie is prepared in perfection, ginger is almost always used with other spices. There, too, part cream instead of milk is mixed with the pumpkin, which gives it a richer flavor. Roll the paste rather thicker than for fruit pies, as there is but one crust. If the pie is large and deep, it will require to bake an hour in a brisk oven.

FAMILY MINCE PIES.—Boil three pounds of lean beef till tender, and when cold chop it fine. Chop three pounds of clear beef suet, and mix the meat, sprinkling in a table spoonful of salt. Pare, core and chop fine six pounds of good apples; stone four pounds of raisins and chop them; wash and dry two pounds of currants; and mix them all well with the meat. Season with a spoonful of powdered cinnamon, a powdered nutmeg, a little mace, and a few cloves, pounded, and one pound of brown sugar; add a quart of Madeira wine and half a pound of citron cut into small bits. This mixture put down in a stone jar and closely covered will keep several weeks. It makes a rich pie for Thanksgiving and Christmas.

CABBAGE SOUP.—Boil corned beef in a pot of water until half done, then add two small heads of cabbage, cut in quarters, and well washed (examine carefully, as insects are sometimes concealed between the leaves); when it is done tender, take out the largest pieces and drain them in a colander, and set it over a pot of hot water to keep it hot; if the meat is tender, take that up also, and add to the soup a cup of pearl-barley or rice, a dozen or more potatoes peeled and cut in half; two or three turnips and some sliced or grated carrots—if liked an onion or two may also be added; let it boil until the vegetables are all done; put the meat on a large dish, and the cabbage and other vegetables on small dishes, for side dishes. This makes a good family dinner. Serve the soup in a tureen, hot; thicken with a table spoonful of flour made in thin paste with water.

Domestic Fowls.

We extract the following excellent remarks from the Practical Farmer:—

In selecting eggs for incubation, care should be taken that they are all laid nearly at the same time. Those that have been laid 24 hours will be hatched some time before older laid ones. It is always well to reject the eggs first laid by young pullets; for if they do incubate, of which there is often great risk, the chicks are much more delicate, and are longer in feathering than those from the eggs of more matured fowls.

The best mode of keeping eggs intended for hatching is to place them in boxes filled with bran, which should be kept in a moderate temperature. The bran should not cover them. In this manner eggs could be kept in boxes labelled with the date on which they have been laid. If kept longer than two weeks, the chances of fertility in eggs greatly diminished.

If it is not designed that a hen should sit, the best and most humane mode of divesting her of the inclination is to place her in a dark coop, alone for two or three days. If the weather is fine, place under a box in a grassy place; but if stormy or wet, it is dangerous to do so. It is however, necessary for the health of hens, that they should have opportunity to produce one brood of chickens every year—provided they are in the habit of often demonstrating the inclination to sit.

The sitting hen, after she has chosen her nest, which she should, if possible be allowed to do, ought to be confined to her adopted location for a few days, that other fowls may be out of her way. If this is not attended to, troubles ensue, from which the eggs suffer. If another hen has been in the habit of laying in the same nest, it is proper that the sitting fowl should be confined until the other hen has chosen a new laying place. At the same time, care should be taken to allow her *voluntary* liberty, at least twice a day, to feed and to drink. The nearer the ground nests can be furnished the better; provided other circumstances favor. Above all, let cleanliness and reasonable ventilation be secured—neither of which are available, when the close boxing system is adopted. If the nests could be with safety permitted to rest on the ground, would be the best situation; for every poultry breeder knows, that the birds of the stolen nest are hardest and best—and oftentimes they are hatched beneath a fence, or in the stump of an old tree, exposed to rains and dews, but safe from them all, through the untiring vigilance of the maternal Biddy.

For the Farm Journal.

Wheat vs. Cheat.

MR. EDITOR:—While citing the case of a whole field of wheat turning to cheat, I was not aware that I was advancing “an *erroneous idea fraught with mischief*,” that would occasion Mr. Schreiner so much trouble “*to repel the evil*,” I merely intended to produce facts as conclusive evidence that there is an affinity between wheat and chess, *alias* cheat; or rather that chess is nothing more nor less than stunted, shrivelled or dwarfish wheat.

If Mr. S. considers chess to be *sui generis* a distinct species or variety of grain, we would like him to classify it and tell us of its botanical traits. It is not a satisfactory way of accounting for a whole field of chess, to conjecture that there “*may have been a little chess among the seed wheat*,” for “there is a little in many a fine crop;” or that “an enemy came by night and sowed it there,” and another enemy came and plucked up the wheat. We hope our opponent will not expect to establish his hypothesis by substituting conjecture for analogy. I did not intimate that “creative power is still

emerging upon the earth,” but accounted for the change of wheat to cheat in the same way that we account for diversity in the human countenance or human form.

“Like produces like,” save when some extraneous influence or disturbing cause occasions a different feature, form or complexion. By this remark I would not throw the blame upon the laws of nature, nor attempt to prove that nature is fallible.

Mr. S. gravely asks “who has ever seen a single stock of wheat turn to cheat?” In reply I would say every person who has seen a stalk of cheat-wheat has seen that which has turned from wheat, which having been sowed and vegetated, but the growth being choked by other plants, or impeded by draught, or other disturbing cause, yielded naught but cheat.

We did not assert that no kind of grain turned into another kind, nor would we admit that such has ever been the case. We intended to convey the idea that the good wheat changed to a different condition or quality of the same kind. I might add many instances where good wheat was sowed, but upon harvesting a large portion was found to be cheat; and the case which Mr. S. gave from his own observation in the June number of the Farm Journal, of “*four large grains of oats growing out of the side of a sheaf of wheat*,” is precisely analogous to the specimens produced by Prof. Mapes of cheat and wheat growing on the same stalk. All are familiar with the mixture that is often found on a single ear of corn where several kinds are planted near together. This shows that different kinds of grain will fructify and grow together when the pollen of the one fertilizes the other, and establishes the affinity that exists between the cereals.

The fact that cheat is seldom found, except when growing among wheat, proves it to be an offspring of wheat, else why not find it as much among other grains. Not wishing to be a competitor, I nevertheless await with interest the result of the experiment being made for the wager of a farm offered by Mr. S.

The motto “clean seed upon clean soil, and a clean harvest will follow,” may be relied upon, save when some disturbing cause may change the natural tendency to mere cheat. If Mr. S. is called upon to execute a deed for his farm in accordance with his own proposition, he will then see that there are other contingencies than those of clean seed and soil. Truly yours,

H. MILLER.

Turbotville, Pa., August, 1854.

Shortening in Lima Beans and Squashes.

The *Granite Farmer* states that clipping the shoots of Lima beans when about six feet high, produces an abundant crop, the beans ripening in August. Squashes, the vines of which were nipped after two or three squashes had formed, were larger and ripened better. By cutting out the early bearing branches, a succession of squashes was obtained through the summer. Tomatoes which grew on an excessive rich piece of ground were benefited by shortening, new and more vigorous shoots successively pushed out in place of those which were clipped.

Killing Fowls.

Only turkeys and geese should be bled to death—the flesh of the chicken becomes dry and insipid from loss of blood. The best plan, says the Poultry Chronicle, is to take a blunt stick, such as a child's bat or boy's wooden sword, and strike the bird a smart blow on the back of the neck, about the third joint from the head; death follows in a moment.

PLUM TREES are generally benefited by spreading a few quarts of salt under the tree; and also by washing the trunk with weak lye.

Monstrous Wheat Head.

We have had the following wood cut made from one in the English Gardeners' Chronicle, which we give to our readers with the remarks of the editor. The head presents the singular appearance of having incipient lateral branches or spikelets, and it would appear a reasonable presumption that by selecting and cultivating such as had this tendency, in the course of time additional branched heads might be formed, and a permanent character established. The trouble of going over a wheat field, and selecting even a very few large and well developed heads, cultivating these by themselves, and selecting from them again, and continuing the process for a few years, would no doubt result in great improvement of seed and productiveness, and at a very small cost. The Baden corn was produced in this way by a long series of careful selections, commencing with such as had two and three ears to the stalk and ended in getting such as had eight and ten. The establishment of peculiarities, either in animals or vegetables, is necessarily a work of time, but there is enough known of progressive improvements in various kinds of vegetables to induce greater care and labor in selecting seeds.

The head represented by the engraving was found by Professor Henslow in one of his allotments. The editor of the Chronicle says:



"It will be seen that at each of the places marked *a a* there is an additional body, having a very distinct reflexed position; and that at *b* a similar though different appearance occurs. Upon examining the structures carefully, we find that at *a a* there is, in addition to the usual spikelet, a lateral one, consisting of imperfect chaffs (*glumes* and *palea*) containing from two to three florets. This additional spikelet occupies the same position as one of the regular lateral one-flowered spikelets of barley. At *b* there is an additional chaff or glume, reflexed as before, but imperfect, and merely indicating a tendency in other parts of the ear to assume the peculiar condition of *a a*.

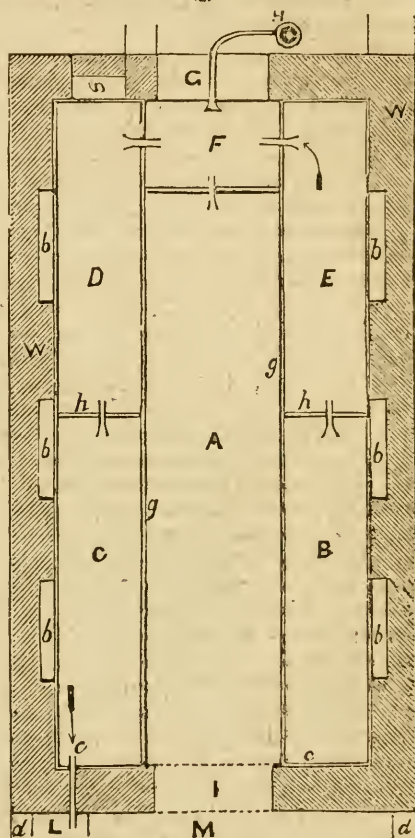
"We entertain little doubt that, in this example, we have before us the elements of that greater change which ultimately resulted in the production of Egyptian wheat out of the common Revett or *Triticum durum*; and if this be so, we have evidence that the common red or white wheats may also be expected to branch in the ear, and thus acquire a degree of productiveness at present unknown among them.

"Now that all eyes are upon wheat fields, we, as botanists,

would direct attention to this fact, and suggest the propriety of putting aside any ears in the condition of that now represented, with a view to sowing the corn apart,

for the sake of the possibility that the tendency to branch may be strengthened and perpetuated. It is entirely consistent with all we know of the nature of plants that this should occur; not, indeed, in every seedling obtained from a branching ear, but in some one of them. Such a case should again be reserved and sown apart; and if but one case of a branched ear should occur in the third generation, the habit of branching may be regarded as fixed; while the degree of it may be expected to go at least as far as in the Egyptian wheat.

"This is a point to which the attention more especially of allotment-holders should be directed. It is even worth consideration whether it might not be desirable to sharpen the perception of the allottees by offering some small rewards for each branched ear that should be brought in."



Milk House.

A. Paved floor with eighteen inches descent to the door. B, C, D and E, Milk troughs six inches deep and elevated two feet above the floor. F, Cream trough, eighteen inches deep. G, Well house door. H, Pump. J, Out door. L, Water trough. M, Out door. N, Stone wall, eighteen inches thick.

a, End window. b, Side windows. c, End of milk trough at discharge pipe. d, Frame work. e, End of the milk trough,—two inches higher than the discharge pipe opposite. g, Rim—six inches high and level on the top all around. h, Divisions.

Mr. Editor:—Mr. Diamond requests Mr. Bennett

Temple to furnish through the Farm Journal a description of his Milk House. Mr. Temple's family's health will not permit a reply from him direct in time for your next number, and he desired the undersigned to forward to you such a description, as one unacquainted with the business of dairying, but fully willing to do his best, shall be able to do.

The building is situated near the foot of a steep hill, fronting the south, with but little shade near. The heat of the sun's rays and the obstructions to currents of air by the surrounding hills would seem to render the spot most unsuitable for the purpose. The structure is of stone; walls eighteen inches thick, one story high, and ten feet wide by twenty feet long in the inside, with the ceiling ten feet high; it is provided with seven six-light windows for ventilation, the bottoms of which are seven feet from the floor, and are hung with glass shutters inside, wire netting in the centre of the walls, and outside shutters on the north and west sides. The ends of the building face the north and south. On the east and west sides of the building, inside, provision is made for double rows of milk pans the entire length, and between them at the north end for the cream kettles. The structure for these purposes is as follows: Around the two sides and north end, solid stone masonry is carried up to a suitable height and width to form the troughs upon, say two feet high for the milk pans and one foot for the cream cans, and of such width as will accommodate two rows of pans inside of the raised rims; these rims are constructed of brick, on the sides next the walls of the building the thickness of a brick, on the fronts next the floor the width of a brick, the height of these rims are six inches. The troughs thus constructed are covered entirely on the inside and tops with a coating formed of two parts of Roman cement and one part of fine washed sand, laid on about the consistence of thick cream with the greatest possible expedition, and sprinkled during the operation with water by an assistant to prevent it hardening before it can be properly adjusted. The bottoms of these troughs have a descending grade of one inch in twenty feet; of course the south end of the right hand trough, as you enter from the south, is two inches higher than the south end of the left hand trough, where the whole of the water from both is discharged, passing through the cream trough between these from the right hand trough to that on the left. The cream trough between the north ends of the milk troughs, as has been said, has its bottom eighteen inches below the rim and is made water tight, as the others, with a separate emptying pipe for the discharge of such water as is below the level of the milk troughs, and all such as may be wanted for washing the floors and other uses about the building. Into the cream trough all the water is received from the pump, (in a well immediately opposite to it outside of the north wall, well protected from the weather, &c.,) for the use of the milk troughs, which are made to be filled as well as emptied through it. Mr. Temple has never found it necessary to change the water more frequently than morning and evening; even during the warm days of my visit with the temperature at 85°, once in twenty-four hours was found to be sufficient. In the warmest weather of summer (as well as at all other times) sour milk, say a large spoonful to

each pan of new milk, is required to produce the necessary acidity to separate and throw up the cream, as in the best spring houses. When the hot weather abates, the water is entirely withdrawn from the troughs. Later, the pans of milk are raised to a level with the top of the rims, and when the cold increases the room is heated with a stove to maintain the desired temperature.

The entrance to the milk house is in the south end, over and around which a frame building extends of like dimensions with the milk house, some fifteen feet southward, where churning, washing pans, drying all the implements, and other necessary operations, are performed.

Mr. Temple has used this milk house six years, after long experience with a good spring, and much prefers the former. The quality of his butter is such as to command the highest price in the Philadelphia market, and no difference has been found in the quantity. It may be proper to say that fresh water from the well is required much more frequently in the cream trough than in the milk troughs; plugs in the rims on each side between them admit this when desired. The pump is an iron patent pump, but nothing objectionable has been noticed on that account.

In the building in front of the milk room are the necessary fixtures for carrying on the operations, amongst which is a large trough to receive the waste water from the milk troughs; through the cream trough is received the water for cleansing, &c., inside the milk house, from the floor of which a pipe leads away the water under the front building. With the above rather awkward description, it may be said that Mr. Temple resides on Chester creek, about three and a half miles from Chester, where he would receive with pleasure any one desirous of information on this subject. The milk house was calculated to accommodate a dairy of 16 cows, and is found to be of suitable size. Respectfully yours, &c., J. E.

Hoo Sung.

In answer to a letter of inquiry as to the manner of growing "Hoo Sung," Mr. J. B. Garber states that its cultivation is the same as any other lettuce. It is sowed in beds of rich garden soil in the spring, or at any time during the summer for a successive crop. If the plants grow very vigorous it will much improve its size and quality, rendering the plants larger, more tender and consequently more delicious, and to still further improve, it would be well to thin out the plants when small to about two or three inches apart each way, and the thinnings can be used as ordinary lettuce. The soil cannot be too rich.

For the manner of preparing for the table see page 234 (August No.) of the Farm Journal.

In a letter received September 9 from Mr. Garber, we are informed that since our first publication he has had applications from Maine to Georgia, and that his stock is nearly exhausted, two dozen small packages alone remaining. Mr. G.'s public spirit and desire to disseminate what he considers a valuable acquisition to our stock of vegetables has caused him no little trouble, but doubtless like other good acts it will bring its own reward.

Corn and Potatoes at the West.

We learn from our Western exchanges that the corn crop in the West and South is better than was recently supposed.

In the western portion of Ohio, including the Miami and Scioto bottoms, and all the northwestern part of the State, the corn crop promises well and will yield an average crop. In the northern portion of Indiana and Illinois, the crop is also good, and the same remarks will apply to Michigan, Iowa, Minnesota, and the northern part of Missouri. From the Southern States the advices are very encouraging, so that taking the whole West together, there is no cause for alarm, nor is there much safety in speculations based upon a failure of the corn crop. We hear of no place, however, where the potato crop is good, or even middling.

In Central Missouri, Illinois and Indiana, and in South Kentucky, and the northwest part of Tennessee, north-eastern portion of Ohio, and Western Pennsylvania, there is no doubt that the drought has proved very disastrous to corn and potatoes, and in these sections there will be a scarcity.

Virginia State Agricultural Society.

The second annual exhibition of this Society will be held at Richmond, commencing October 30th and continuing till Friday November 3d, at 10 o'clock of which day the reports of the Judges will be read from the stand, and a valedictory address delivered by B. Johnson Barbour, Esq.

Exhibitors must have their articles and animals registered on or before Monday, October 30th.

The regular annual address will be delivered by the Hon. Wm. B. Preston, at 11 o'clock on Wednesday, November 1st.

The schedule of premiums embraces a wide range, and is of the most liberal character, containing several premiums of \$50 and \$100 each, many of which are for essays on subjects of interest to the farmer, such as draining, rotation of crops, guano, hay making, diseases of crops, &c., also on corn culture, wheat, tobacco raising, poultry, &c. These will no doubt elicit and circulate much valuable information.

Alleghany County Agricultural Society.

The Alleghany County Agricultural Society will hold its fifth annual fair at Pittsburg on the 3d, 4th, 5th and 6th days of October. We have received a pamphlet, containing an extensive premium list, with minute directions to exhibitors, instructions to Judges, and rules for their decision. There is also to be a sale of stock, and an address delivered by Hon. A. U. Loomis.

The committees are not confined to that county, but selected from various parts of the State.

The premium list is so comprehensive, as well as liberal, in the amounts to be awarded, that it looks as if intended to rival the State Exhibition at Philadelphia. This is all right, as the mountain barrier and distance necessarily prevents contributions from either extreme point to much extent. The absence of the State fair from any one locality ought not to have the effect of discouraging efforts at home and in the county societies. On these must devolve very much the task of stirring up

and keeping stirred up the spirit of improvement among the farmers of their own district.

The Alleghany County Society offers quite a list of premiums to lady equestrians for the best and most graceful riding and driving. The highest premium for this accomplishment is \$200. The officers of the Alleghany County Society are:

President—William Martin, Sr.

Vice President—P. A. Way.

Recording Secretary and Treasurer—A. B. McQuewan.

Corresponding Secretary—Jas. S. Negley.

Executive Committee—John Young, Chairman, Benj. Kelly, Robert McKnight, John S. Hall, John Murdoch, Jr., Alex. Speer, (City,) J. E. McCabe, Mansfield B. Brown, J. M. K. Snodgrass, James Kennedy, G. W. G. Payne, John McKelvy, J. A. Guy, Henry Ingram.

Honor to the Farmer's Wife.

A. G. Comings, of Mason, New Hampshire, writing to the *New England Farmer*, gives the following adenda to the "Thrifty and Thrifless Farmer," which we had the honor of introducing to the world last January, since copied into nearly every paper in America. He says:—

We have had some interesting articles from the pen of the editor upon *Farmer Thrifty* and *Farmer Thrifless*. These have had a very favorable reception in all quarters, and "have gone the rounds" among the scissored fraternity, very much to their honor.

It is never desirable to cripple a fast sailing ship, nor do any thing of the kind; but I cannot help cherishing an inclination to try, at least, to take some of the wind out of those sails, and turn it in a different direction. Having been favored with a view of the inside of "River Cottage," some time since, I am entirely removed from any feeling of danger, if I shall venture to suggest to my esteemed friend, the editor, that *Farmer Thrifty's wife* was justly entitled to a very large share of the honor which has been given to *him*.

A thrifty old bachelor farmer is a most unnatural, unusual and impossible idea. Mercantile money-worshippers, commercial adventurers, and political fire-eaters, can be made out of those unsocial things called old bachelors. But that first of all employments, and greatest of all, agriculture, requires a being of sense enough to know that he is a man, and to know that no man honors his manhood who is willing to live alone in this world, that is, without a wife. The natural design and first proper use of a farm is as a *home*. What a home that would be where woman should have no place! Call for Robinson Crusoe, and let him sing of its "charms!"

In an old bachelor's garden, flowers could not bloom for any good cause. Fruits could not ripen, except the sour crab apple. He who would not have a wife and children about him could never care for cattle, horses, sheep, hogs or hens, except with the same hoggish care that grunter has for his provender. It is a settled question. No man can be a farmer who is so much a brute as not to be a social being. But this is all out-door talk. We must go into the house, and take a look at things there, if we want to understand why *Farmer Thrifty* is always so thrifty and so cheerful.

The chances of thrift in this world, without a wife, are hardly one to a thousand. The chances with a wife

may be reckoned about by square numbers; as, in some communities, about one in four; in others about one in nine; and in others not more than one in sixteen, or perhaps one in twenty-five. We reckon in this way. The faculty to accumulate, and the ability or faculty to save, are two distinct faculties; which have their application both out of doors and in the house. Without two interested persons, to direct or use these faculties and interests, one in the house and one outside, there is scarce a possibility of success. In the most intelligent and well trained communities, of either men or women, not more than one out of two are capable of managing their part successfully. The probability for the success of the couple will be a square of the chances. The chances are two for the man, out of which to bring one; and in the same manner for the woman. Or, more correctly I should say, the chances of each are as one-half; which, squared, leaves one-fourth, or one in four. Where not more than one in three for each, their united chance would be one in nine, and so on.

The faculty in the exercise of which the man is to excel, is an ability to earn or accumulate; while the faculty necessary for the woman is an ability to preserve, to keep, to economize.

Now if, as poor Richard says, "A penny saved is as good as two pence earned," then Farmer Thrifty is not entitled to all the credit of the success which has attended him.

The amount which can be laid up, yearly, after meeting all expenses, is but a small per centage of the stock employed. If the farmer pays interest on his farm, and the farm is worth no more than the sum upon which he pays interest, then he has properly nothing invested except his labor. If his own labor would be worth four hundred dollars, and the economical support of his family would cost him four hundred, the management in the house will decide whether he shall have any profit on this four hundred dollars. If, with the most economical and careful management of his affairs in the house, he could lay up six per cent. profit on the worth of his labor, it would be only twenty-four dollars per year. If he could lay up twelve and a half per cent., it would only amount to fifty dollars in a year.

Some women are always very careful not to encroach upon the time of their husbands. Their meals are always ready at the time which will favor the out-door work. If they must call for the assistance of "the boys," or the farmer, or for the use of "the horse," it is carefully planned so as to cost as little hindrance as possible. They study economy in the use of fuel, whether it is obtained from the farm or not; and every article of clothing, or of provisions. Everything is put away in the best order for preservation, or in the proper place for convenience. Then they greatly increase the strength and activity of the farmer, by the cheerful manner and spirit, and the constancy of life, with which they seek to promote his wishes.

The fact is, the wife of Farmer Thrifty makes butter and cheese, when she makes any, which will add twenty-five per cent. to the butter which Farmer Thriftless carries to market. Her boys and girls will be kept in as good order nearly twice as long, with the same clothing and shoes, as those of Farmer Thriftless. Crockery,

glass, china ware, &c., can be used upon her table much longer, by reason of a ready care. Farmer Thrifty's wife is a cheerful woman, and people like to visit at her house. This costs something; but good cheer does so ease the burden of life, that, after all, it is no tax, if not carried to excess.

Now all I have to say about the matter, further, is, that there is no such man as Thrifty in the list of farmers or mechanics, whose wife is not entitled to as bright a feather in her cap as her husband can wear.

I have no fear that any of the women will get angry with me for what I have said, for none of them read the papers, only the wives of the Thrifties.

Chester County Exhibitions

The annual exhibitions of the Chester County Agricultural and Horticultural Societies took place on the 7th, 8th and 9th insts., being the first in the State of our fall exhibitions, and the only ones occurring previous to going to press with our October number.

The borough of West Chester was enlivened as usual during three days with double its usual population, showing no lack of interest, and making reasonable allowances for the dry season, the display of stock and productions of the soil, except fruit, exceeded expectations. More horses were exhibited than last season, and some very fine ones, including some of the Morgan and also Norman stock. Durhams, Devons, Aldernies and Holsteins were on the ground in considerable numbers, though not quite so many as last year, nor in as good condition. One exhibitor, A. Bolmar, exhibited twenty-six head, including two bulls. One of the latter received the first premium as the best Durham bull. Geo. Brinton, Jr., John and Paschall Worth, Francis and Marshall Strode, Gerard Cope, and Richard Pim, were the principal other contributors of neat cattle.

Joseph Cope and John Worth exhibited some of their superior Southdown ewes, which attracted much attention. We observed no Bakewells or Cotswolds. The swine were chiefly of the Chester county breed. Vegetables were not very numerous, but very excellent in quality. We have never seen finer sweet and white potatoes, or much finer egg plants. Samples of wheat and corn were also very superior. The dairy productions were not so abundant as they should have been; our friends Job Hayes and wife carried the premiums for their butter and cheese. A large and excellent display of agricultural implements was made by S. & M. Pennock & Co., including their improved wheat drills, corn shellers and iron plows. Lewis Cooper, of Lancaster county, exhibited his lime spreader, guano spreader and combined machines for both lime and guano. A capital butter mould was exhibited by the Messrs. Dickey, of Chester county, and used by them in their extensive dairies. It saves labor, and makes a square print much more convenient for packing for market. A sample gate was erected on the ground by our energetic and public spirited friend Townsend Sharpless, of Philadelphia, to show a very simple and complete mode of hanging and fastening. The gate is made to shut itself, simply by a strong chain a few feet in length, one end of which is fastened by a staple in the lower part of the heel of the gate and the other near the top of the gate post. It is

a constant strain on the gate, holding it fast when shut, and drawing it shut when open, simply by the play up and down on his hinges (spike), the shoulders of which are made long enough to admit of the gate raising sufficiently for ingress or egress. It may be applied to large or small gates, only requiring a catch of some kind behind to hold it open for riding or driving through.

A thousand ladies were estimated to be on the ground at one time. A lecture on agricultural chemistry was delivered on the ground to a very attentive audience by George E. Waring, author of the "Elements of Agriculture" noticed in our September number. He seemed to us to have a remarkable facility for illustrating his subject, and answered all the questions put to him with entire promptness. Our practical farmers were much pleased with his address. So ready and capable a lecturer would confer a vast amount of good through Pennsylvania could his services be engaged to visit every county society. He is one of the few lecturers on agricultural chemistry, who, appearing to thoroughly understand his subject matter, divests it at the same time of all obtuseness. An address was also delivered by John S. Bowen, which we were prevented from hearing, but which is highly spoken of.

The Horticultural Exhibition occurred at the same time as the Agricultural, thus dividing many of the contributions. Most of the fruit was taken to the Horticultural, and also probably of the vegetables. The latter surprised every one by their quantity and quality. The season for fruit trees being so unpropitious, the display was of course meagre. There were, however, some very fine peaches exhibited by J. William Thorne, and the famous Jeffries apples in great perfection. The display of flowers and green house plants was thought to surpass all previous exhibitions. West Chester is, we believe, the only inland town in the State, except Pittsburgh, which flourishes and supports both an Agricultural and Horticultural Society. The Hall of the latter cost about \$6,000, and we believe is the second one in the Union built by a Horticultural Society for horticultural purposes.

Hereafter it will probably be found better to hold the two exhibitions separate and at different periods in the fall. The display in each will then be more complete, as there will then be no interference.

House Painting.

We have repeatedly called the attention of the readers of the Farm Journal to the fact, that painted surfaces exposed to the weather should in all cases possible be painted in the fall, winter or early spring. The best time in the year is in November and December. This, experience has abundantly shown.

On exposed surfaces, painted in the warmer portion of the year, it will be found that the oil has commenced "leaving the paint" in one, two or three years, according to the quality of the materials used. In passing the hand over it portions will adhere, and every rain will carry off these loose particles, so that in a very few years the paint if not removed will all disappear. On the other hand, if reasonably good material be used and put on in the months indicated, the paint will last twice or thrice as long, thus saving the cost of one or two renew-

als, to say nothing of the better preservation of the wood.

Colza.

LIGHT HOUSE OFFICE, CUSTOM HOUSE, }
Philadelphia, Sept. 5, 1854.

J. L. DARLINGTON, Esq.:—Dear Sir:—I have been furnished by the Light House Board with samples of different kinds of Colza, which have been, I believe, imported in the hope of turning the attention of our agriculturists to its cultivation. You are aware that in France the oil of Colza is much used in the arts, and both in France and England, it has taken the place of sperm oil for light house illumination. In England it is furnished at 89 cents per gallon, and 40 per cent less than the cost of spermaceti oil. Is it not worth the trial in some parts of this country?

I shall be happy to furnish yourself or any of your friends, who may wish to plant the Colza, with such samples as they may prefer.

I enclose a translation of the article COLZA, in the *Nouvlan Cours Complet D'Agriculture*.

JAMES S. BIDDLE,

L. H. Inspector.

Colsat or Colza: Bleracea Brassica.—This name is commonly given to a variety of cabbage, the least removed from the type of the species, and cultivated principally for its seed, which furnishes an oil valuable in the Arts. It is known by its radical leaves, which are petiolated, sinuated, or slightly incised; sometimes even pinnated at their base, and by its earlike or head leaves, which are sessile and cordiform. Both sets smooth, and of a yellowish-green color; vary often in size, but are always smaller than in other varieties.

There are two sub-varieties of Colza—1st, with white leaves, 2d, with yellow leaves. These latter are larger, thicker, and more patient of winter than the former, and the plant that bears them is therefore cultivated in preference.

Such cultivation cannot be carried on in all localities, some of which are entirely unsuitable. In France it is only pursued to some extent in the plains of what was formerly Flanders. It would be uselessly attempted in the southern departments, where there are often prolonged droughts, and where water for irrigation is scanty. The character of the soil must be above all considered. In a sandy soil the stem of the plant is weak, and the grain small; amid clays it vegetates slowly, turns yellow soon, and yields but little oil. An intermediate soil, a loam, light and rich, *i. e.*, the best wheat land, is the only one that properly suits it; and such a soil must have besides a good depth, and requires to be well worked and highly manured. Sown broadcast in the fall, it furnishes in the spring a green crop for use, and in this respect it is very advantageous in many circumstances; still for this even, other varieties of cabbage are preferable. It may be profitably seeded, too, in order to being turned under when in flower.

In some districts Colza is cultivated like rape—*i. e.*, sown broadcast at once in the field; but experience has shown that the best method is to sow first in a bed, and then plant as other cabbage.

Ground intended for seeding Colza is generally chosen in the neighborhood of the dwelling, so as to be able to take more regular care of the operation which it requires. It is worked with the spade better than with the plough; and it must be manured in proportion to its natural poverty

or the exhaustion from previous crops. Its surface, made as even as possible by harrowing and rolling, is divided into squares of 4 and 5 feet, separated by furrows or tracks a foot wide.

Seeding is generally done in July. The grain should be put in as uniformly as possible, and in small quantity, so that the plants should not grow up too crowded. The plants after they come up are watered in a drought, and are thinned and weeded as may be necessary.

In England, where good farmers have generally adopted the method of seeding in ranges or furrows, a similar method is followed with Colza—*i. e.*, little furrows, 6 or 8 inches apart, are made with the awk end of the rake, and the seed is dropped in by pinches, and covered up with a stroke of the rake. While the plants are growing in the Colza bed, the ground intended for planting is being prepared.

The field for it is almost always one which has borne wheat that season. There is always profit in manuring afresh, though this is often omitted. The manure should be ploughed in first a little after wheat harvest; a second ploughing should follow in the first half of September, and a third some time in October. The ploughing should be as deep as convenient, and crossed in order to break up the soil more.

It is probable that salt employed in its cultivation would hasten the vegetation, as it does that of flax and hemp.

A single spading would supply the place of three ploughings, but the expense of it does not allow it, except on small plantation worked by the proprietor or the tenant by his own labor and that of his family; labor which, happily for agriculture is counted for nothing, otherwise many operations would go undone, did we calculate beforehand the trouble they cost and the money they return.

In all cases the land should be laid in raised beds, in order to discharge surplus water; and little drains should be made with the same view, if the nature of the soil and lay of the land require them.

The month of October is the most proper for transplanting Colza. Weather cloudy, even a little showery, should be chosen, that the plants may take more readily. The plants are removed from the seed bed, not by hand pulling, but a mattock, handling the roots and leaves with the utmost care, and are carried in baskets to the field.

The best form for the plantation is a quincunx—*i. e.*, parallel rows breaking joint alternately—15 to 18 inches apart, and they should be set with a mattock rather too deep than too shallow; for what is called the *stem* in cabbages is only the prolongation of the root, and this prolongation being susceptible of throwing out new fibrils, the plant is better nourished.

If necessary to plant quickly, one person makes the holes and another puts in the plants and covers up, not pressing the earth too much around the roots, for that both constrains the position of the plant and embarrasses the root fibres.

In November, if the weather allows, plants that have not taken are replaced, or this operation is postponed till early next spring. Either way, a proportionate number of plants is reserved in the seed bed for the purpose.

Planting Colza with the plough is so easy and economical that it is astonishing this method is not more generally practised. The only inconvenience with it is, that the plant does not always set straight, but it becomes so, and whether much or little leaning it can be brought up with a short prop.

The plantation is touched no more until March, or even April, according to the season. Then it is hoed, and the stalk is ridged or hilled. The drains, if there are any, are cleaned out, and the earth from them is thrown on the

ridges. In May a second hoeing is given like the former.

In the northern Departments of France, where colza is much raised, its grain is generally ripe towards the end of July; more to the southward it may be a month earlier. The state of the weather also concurs to advance or retard the epoch of its maturity. When it should be gathered is known by the yellowness of the stalk and falling of the lower leaves. As the greatest quantity and best quality of the oil results from perfect ripeness, and as when the seed is left to ripen on the stalk a good deal must be lost, the skill of the cultivator is in choosing the proper time for balancing between these two.

When from being too late gathering, or from some accident, the grain has been scattered, some amends may be had by harrowing it in; then furnishing an abundant pasture, or at least a vegetable manure.

The stalks of colza, when the grain is ripe, are cut with a sickle close to the ground. Morning is best for this, in order that the shaking which in spite of all care, the cutting will occasion, may cause the least loss, the pods swelled by dampness of night having then less tendency to open. The stalks are placed in a cart and conveyed to large barracks, whose floor is close and clean, where they are laid in heaps, but without being pressed, so as to allow in fact, a circulation of air around the branches. There the seed continues to ripen from the sap which remains in the stem, and which evaporates very slowly.

Where there is no barrack for the purpose, ricks are made in the field itself, or some convenient place, with the cabbage heads and straw in alternating layers. The tops and sides of the ricks are then thatched with straw so as to keep off the rain.

When the stalks are perfectly dried, they are threshed either on the barn floor or on a treading floor made in the field, in order to separate the seed from the pod—an operation very easy and very rapid. The grain is then winnowed as wheat is, sifted, and cleaned by all possible means from foreign substances; for the cleaner it is the less it attracts moisture, and consequently the sounder it keeps.

As the grain, although coming from stalks perfectly dry, (which is, however, not always attended to,) contains still a superabundance of moisture, it is good to spread it for several days upon sheets, turning it over often, in order to hasten the expulsion of this moisture. Then it is put in sacks, which must be emptied and refilled every fortnight until it is carried to the mill. With these precautions the grain is kept without moulding or heating, and yields abundance of oil, and of excellent quality.

When the grain is pressed too soon it yields less oil, and of inferior grade. When the pressing is put off too late there is still less yield, and the oil is rancid. In the first instance, the mucilage has not had time to become transformed into oil; in the second, the grains themselves become more or less decayed, or spoil in some other manner.

The beginning of winter, before the heavy frosts, is ordinarily the time for expressing the oil; and this is in fact the most favorable period in all regards.

The mode of expressing colza oil does not differ from that employed for other oil-yielding grain.

The mass of the grain after expression of the oil is called *tourtean trouble*, or *pain de trouble*. It is given to cattle, to cows and pigs especially, which are very fond of it, and fatten rapidly on it; or it may be applied to the land, which it helps almost as much as stable manure.

Every time a healthy loaf is pulled off from a vegetable, especially a vegetable which has leaves so few and so large as colza, its growth is hurt, and, therefore, also its flowers

and its fruit are injured. We cannot, therefore, recommend for imitation the practice in some places to strip the colza leaves for food for cattle, or even men. If this is the object of the crop, it would be much better to raise green cabbage and some other varieties which have more leaves than the colza, and from which those leaves can be better spared, because they are all consumed before running to seed.

A variety of colza—spring colza—is sown in the month of May, either broadcast or in furrows, or to be transplanted.

Like all annuals in the same category, it yields fewer and smaller seed. It ought not, therefore, to be raised when it can be avoided.

It is manifest from what has been said that the cultivation of colza is a substantial benefit in districts where yet prevails the disastrous fashion of leaving ground in fallow; for it is planted after the wheat crops of one year, and gathered before the seeding of the next. It ought to enter, then into the rotation of all rich and moist lands. The hoeings which are necessary in this crop clear the ground of weeds and prepare it for the next year's crop. But, as like all plants that furnish oil, it is very exhausting to the land, it should not come in turn till after a period of five or six years at least.

One principal advantage of introducing colza into the rotation of crops is, that by planting it immediately after the wheat is cut off, the ground is thus used before it has become dried, and also at a season when, for the most part, it would otherwise be bearing nothing.

TREASURY DEPARTMENT, *Office Light-house Board, July 1, 1854.*

If any of our readers can give us information as to the relative profit of a crop of colza, we shall be glad to hear from them. Ed.

How much Pork will a Bushel of Corn Make.

Under this head B. J. Harvey makes some sensible observations in the *Michigan Farmer*; which, although better calculated for Michigan than Pennsylvania, may be read with profit by some of our farmers. He says:

Perhaps there is no class of people in the world, who work so much without system, and labor so much at random—none that know so little about their expenses and their incomes—none that make use of arithmetic so little, as those who till the soil for a subsistence. There is certainly a want of a due exercise of the organ of calculation among this class. The farmer plows, sows and cultivates his crops—harvests, threshes and makes sale of them, or feeds them to his stock,—but how rarely does he keep an accurate account of the entire cost of production, so as to know whether he gains or loses by the operation.

I have been led to make this communication from seeing the question asked, at the head of this article—"how much pork will a bushel of corn make?"—in one instance the answer is 15 pounds. This result was obtained, as in some similar ones, from first weighing partly grown hogs, and then feeding for a time, and then again weighing: when the only true way to ascertain the actual cost of making a pound of pork, would be to take into account the entire amount of food consumed from the time the animal commences to eat, up to the time of slaughtering. I have not instituted any perfectly accurate experiments, but sufficient to induce me to believe that reckoning as above, an ordinary hog will consume on an average five pounds per day or about thirty bushels in one year. Now it is an extra good hog that will weigh 365 pounds at that age; but this estimate gives only about eleven pounds of pork, to the bushel of corn consumed. The average price of corn for this State, may be estimated at 50 cents per bushel, which makes the cost of

production \$1.11 per hundred. But the actual average of hogs at one year old does not exceed 250 pounds per head, or less than eight pounds to the bushel of corn; or at an actual cost of six dollars per hundred to the producer, when fed wholly on corn.

Now it will be seen that if the above estimate is anything like an approximation to the truth, pork cannot be profitably raised in Michigan from corn alone. And I have no doubt that if this question were put to every farmer in the State, it would be answered by nine tenths of them in the negative. Yet the most of our pork is made almost wholly from corn. Why is it persevered in from year to year? Will not the answer be found in the first paragraph of this communication.

I do not mean to say that pork cannot be profitably grown at all. No doubt with the right kind of food and management, it may be made at a cost of three or four dollars per hundred. Boiled potatoes and pumpkins, mixed with a portion of corn meal, will make hogs thrive faster than corn alone—changing the kind of food often is advantageous. Hogs will do well in summer in good clover pasture, with little else. Try it, you who are in the habit of keeping your hogs in the highway. Apples are good.

In conclusion I will say farmers, if you have nothing but corn and the highway, to make pork of, take your corn on the highway to market, and buy your pork.

Coal Ashes.

A writer in the *Practical Farmer* gives his experience in the use of coal ashes. He says, I have now a bed of carrots, about two hundred feet long, and ten wide, in drills. The seed was sown unusually late, and I did not expect much of a crop. I had about a cartload of coal ashes—the result of the cooking stove—which had not been mixed in the manure heap; and not having any other use for them, I had them spread on one end of this piece of ground which I sowed with carrots. The ashes spread over about a third of the bed, and the carrots, where the ashes were spread, are more than twice as large as the other portions of the patch;—the stalks are much greener, and also double the size of the others.—The whole piece was manured very lightly, as the manure yard was empty at the time.

How to get rid of Rats.

Prof. Bascom, of Oberlin, in a letter to the *Ohio Farmer*, says:

"Would it not be well to call the attention of your readers to the ease and certainty with which they may be relieved from the annoyance of the large brown rat. This impudent intruder often visits my laboratory and other premises. As they come singly, I take off each, the night after I discover signs of his presence, in this wise: I take half a tea spoonful of dry flour or Indian meal on a plate or piece of board, and sprinkle over it the fraction of a grain of strichnine. This is set in a convenient place, and I invariably find the culprit near the spot dead in the morning. The peculiar advantage of this poison is, it produces muscular spasms, which prevent the animal from reaching his hole to die and decompose. It is needless to add that such a violent poison should be used with care.

Clover.

When clover was first introduced into Germany to fill up the year of naked fallow, in the triennial course of cropping, its effects appeared so extraordinary, that it was pronounced to be the limit of the art of culture. It gave fodder for cattle during the formerly naked year, it gave a better crop in the following year, and it was supposed to choke the weeds which infested the fields of grain.—*Von Thuer.*

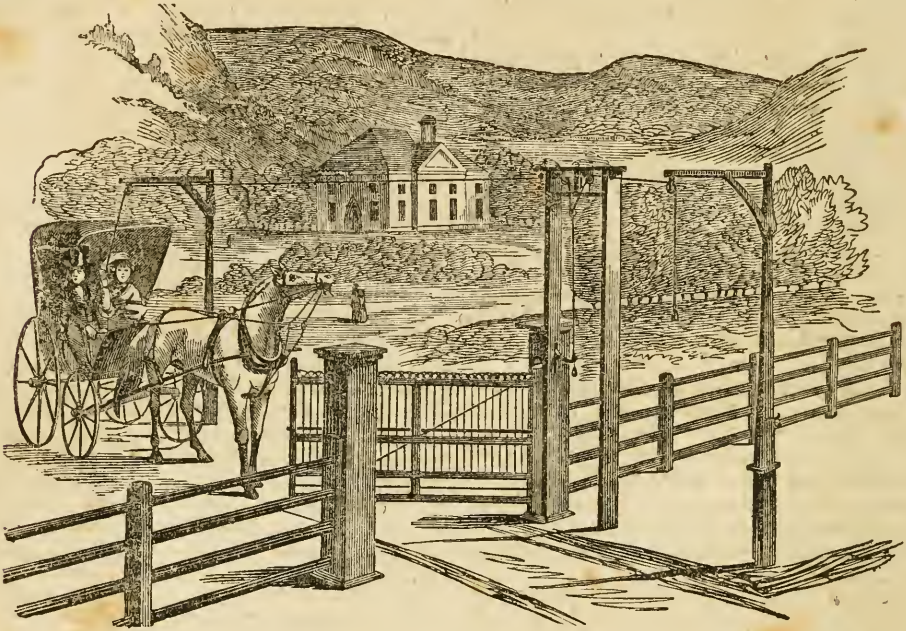
Lime from Oyster Shells.

It is generally known that oyster shells, when burned in a kiln, make lime of the purest and best quality; yet notwithstanding this they are rarely used for this purpose. We have known instances of farmers hauling lime for their land over fifteen miles, and in some instances the limestone, when hundreds of bushels of oyster shells could have been had for nothing at oyster sellers near at hand.

The manner of burning oyster shells is almost identical with that of burning lime in a stone coal kiln, with

alternate layers of shells and small coal—the proportions used being about the same as when limestone is used. Lime made from oyster shells is free from the causticity of much of that burned from stone, and therefore far preferable for all horticultural purposes.

As an evidence of its purity we may state, that the West Chester Gas Company use oyster shell lime for purifying the gas in preference to all others. They have a small kiln at their establishment, in which they burn the shells obtained from the different oystermen in the borough.



WOOLMAN'S PATENT FARM GATE.

The above engraving represents Woolman's Patent Farm Gate. As will be seen it is so constructed as to be opened, closed and fastened without alighting from a carriage. The driver, whether gentleman or lady, can, while sitting in the carriage, by a gentle pull on a cord, that comes right in the way, unlatch, open and fasten it open; and on riding through, a slight jerk on a corresponding cord closes and latches it. The cost over an ordinary gate is trifling, and its utility will be perceived at a glance. H. Kimber has purchased the right for this county.

Planting Trees.

Before our next number reaches its readers, the planting season will have arrived. The public mind is fully awakened to the importance of making good use of each of these semi-annual periods, and from what we hear it is highly probable all our nurseries will be sold out more bare this fall than ever before. The large number of farms and pleasant sites, brought into view for the first time by the opening of new railroad routes, the increasing taste in all our large cities for suburban residences, the subdivision of farms, &c., all contribute to make the

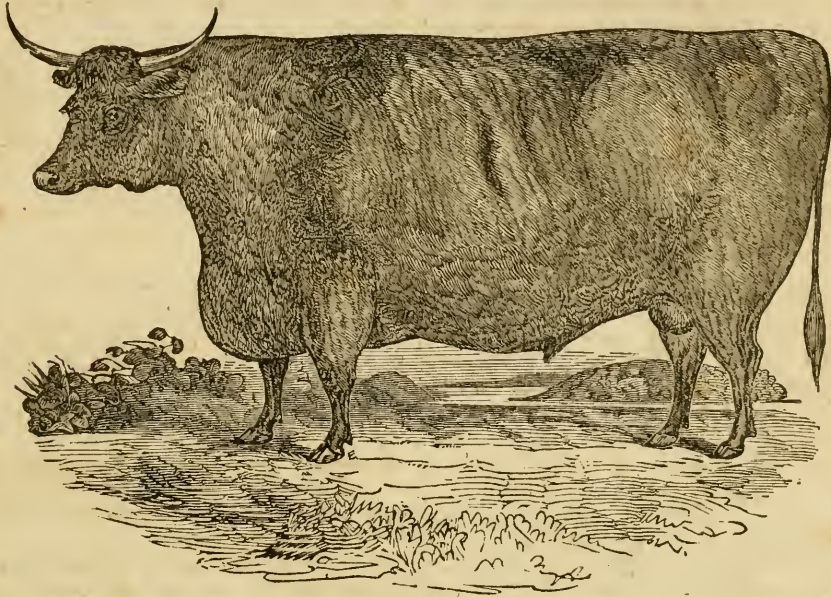
demand both for fruit and ornamental trees the present fall altogether unprecedented.

We wish to impress the fact that there is an *art* in planting a tree or shrub, and to remind those who have it to do, that the *object* of planting any kind of a tree or bush is to make it *grow* and *thrive*, and not merely to stick it in the ground so that it won't blow over. We are satisfied this is a *new idea* to some persons, and as there is a "trade" in every thing, we would recommend those whose trade or profession may have always been in the city, to engage their planting to be done by some one who has made a *trade* of learning to do it right, and if he really knows how to do it, as he ought to know, the expense will be re-paid ten times over. To those who prefer attending to it themselves, and there are many both in town and country, whose pursuits have led them into a different channel, but who could most readily and easily succeed with the aid of a little plain theory, we recommend the purchase of Downing's, Thomas', or Barry's fruit books for instruction in the management of every kind of fruit trees from first to last, and also Meehan's hand book of ornamental trees and shrubs. The latter contains a complete list and description of the

most desirable trees for shade or ornament. A very large proportion of trees die for want of care in planting and want of care afterwards. Fine fruit and fine shade are both objects worth having, and those who do not think so we would advise not to plant.

In this utilitarian, money-making age, hundreds of persons will plant simply as an operation in the money

market, and because it increases the value of their property to surround it with ornamental trees and handsome surroundings. Others more patriotic and mindful of posterity will do it from better motives, but whatever the stimulus may be, all we have to say is plant, plant, plant and plant well. If you do not reap the reward others may.



DEVON STEER.

We have had the above engraving taken for the Farm Journal as an illustration, of a pure North Devon steer, to show some of the points for which this valuable breed can be so highly recommended. It is described in Colman's agricultural tour as a correct portrait of a fat steer, which took the first prize and silver medal at one of the Smithfield cattle shows.

Of late years the Durhams from their larger size and more showy appearance, with the enormous prices they have readily commanded, have to some extent thrown all other breeds into the shade. We believe it is as desirable here as in England not to have one breed for all situations and localities, but to select such as are adapted for the particular circumstances of each district or section. Durhams and Bakewells are not at all suited to the chalky hills of Devonshire, or to thin soils, rough treatment and severe exposures anywhere. A South-down would thrive where a Bakewell would starve. Devon cattle have their peculiar excellencies for which they are unsurpassed, and no one breed can be found combining every good quality which may be wanted. They lack size, and, so far as we have known them, are not extraordinary milkers. We have known, however, *part bred* Devons to come well up in this respect, and in this section they probably comprise the larger part of our most productive dairies. One of our friends, who had a fancy for an entire dairy of all red cows, informs us that his thirty cows averaged him for six months 7½

pounds of butter per week. They were a beautiful lot, all of them more or less crossed with Devon blood, and for six years there was not the least sickness of any kind among them.

The Devons are a *distinct* breed, having in the district in England, where they are found in the greatest perfection, their distinct characteristics from the earliest records. Within the last thirty years some improvement has been made in their size as well as aptitude to fatten, but in other respects they are essentially the same as they have always been. The points of Devon cattle will be found fully described in our 3d volume, page 34.

The Devons when pure are invariably of a red color, with a fine, mellow, elastic skin, indicating in every breed fine feeding qualities. The nose is always light colored, and around the mild eye there is a peculiar bright orange colored ring. These are marks of importance.

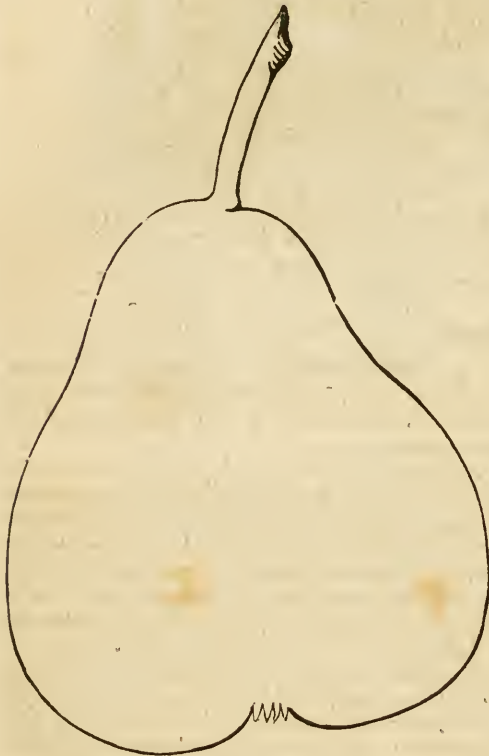
Although smaller than the Durhams and some other breeds, they yet have a great disposition to fatten, and their meat is of the finest quality and beautifully marbled. It is as oxen, however, that they are altogether unrivalled. Youatt says of them, that they are often trotted along in their native district with empty wagons at the rate of six miles an hour, and that four good Devon oxen will do as much work in the field or on the road as three horses, and in as quick and often quicker time. They are usually taken into work at two years

old, and are worked until they are four, five or six, at which period they attain their full size. If not worked he will be stunted in his growth.

The form of the Devon ox indicates the true one for a working animal, combining strength with comparative speed. The legs are longer than in the Durham, and the bone small below the fore arm, which is large and powerful. The back is generally straight from the withers to the setting on of the tail, and the hind quarters from the hip to the point of the rump are long and well filled up, a point of importance both for grazing and working.

The whole appearance of the Devon is that of a clean, neat, well made animal, fine in the bone and free from any coarseness. Mr. Patterson, of Maryland, and C. P. Holcomb, of Delaware, have both imported Devons from England, and are the principal breeders of this stock we are acquainted with in the United States.

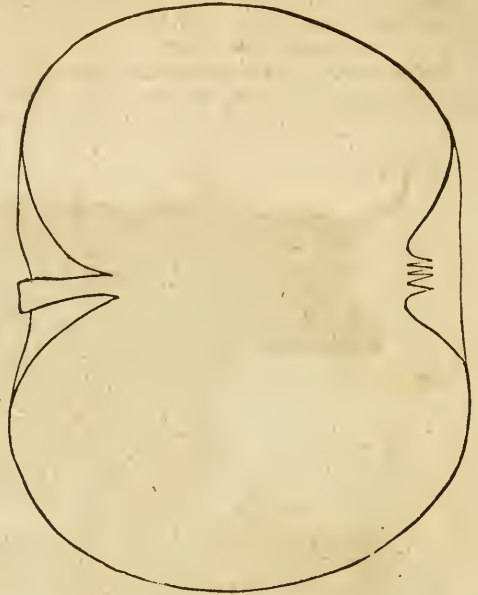
CHOICE FRUITS.



BEURRE LANGEЛИER—LANGEЛИER'S BUTTER.—A foreign pear, newly introduced: has fruited but few times in this country, but may safely be placed as best.

Fruit, large, obovate pyriform, contracted toward, and terminating obtusely at stem; color, light green, becoming, at maturity, pale yellow, with a dull red cheek in sun, and numerous gray russet dots; stem, one inch, or more, long, angularly inserted without depression; calyx, medium; basin, shallow, plaited; core, medium: seeds, long ovate pyriform; flesh, yellowish white, melting, juicy, fine-grained, sub-acid, slight perfume. Sea-

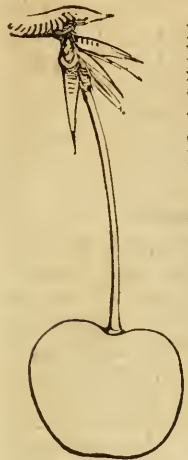
son, November to January.



THE MELON APPLE.—The Horticulturist pronounces this the "finest of American apples." It was first brought to notice by Ellwanger & Barry in 1845. The Horticulturist continues:—

"It has been disseminated to some extent by the nurseries; but the tree being a delicate grower renders it somewhat difficult of propagation, and the stock has consequently been very limited. The best way to obtain good standard trees for orchards within a reasonable time is to top-graft it on strong growers, such as the Northern Spy or Baldwin. The fruit, we think, has no superior, if an equal. It is tender and juicy as a peach, with an agreeable and peculiar perfume, which suggests the name of Watermelon originally. We once carried some specimens with us to Europe, and presented a few to Mr. Rivers, who pronounced it the most tender and delicious apple he ever tasted.

"Size—large, three to three and a half inches broad and three inches deep. Form—round, slightly flattened on the ends. Stalk—about an inch long, rather slender, and inserted in a pretty deep, regular cavity, covered with russet. Calyx—closed, large, in a large, deep basin. Skin—smooth generally, but often rendered rough to the touch by a tracing of russet, pale whitish-yellow in the shade, nearly covered with light red, and frequently with bright vermillion stripes. Flesh—white, remarkably tender, with abundance of juice, very mild sub-acid, with a sort of melon flavor. Season—November to March in Western New York. Tree—erect when young, spreading as it grows older, but still compact and regular. Shoots—slender, olive-colored, with numerous russet specks. Leaves—large, folded, serrate, smooth and shining above and wooly underneath. It grows well on the Paradise stock, and makes a handsome, prolific bush, for small gardens."

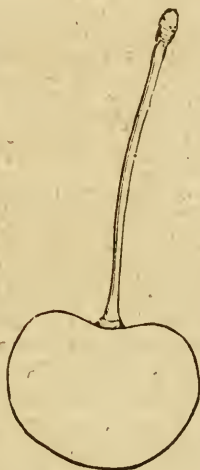


DOCTOR.—Raised, by Prof. Kirtland in 1842. The tree is of healthy habit, not extremely vigorous, upright, rounded in form, bearing even to excess of fruit, so much so that unless well cultivated the fruit becomes small. Original soil, gravelly loam.

Fruit, medium, roundish heart shape, with a suture extending all round; color, light yellow and red, the latter most prevailing; flesh, white, tinged with pale yellow, juicy, tender, sweet, with a delicious flavor; pit, small; stem, rather slender, in a round regular basin. It ripens early in June, but will hang until July.

LATE BIGARREAU.—Raised by Prof. Kirtland in 1842, on a gravelly soil. Tree vigorous, shoots stout and rampant, forms a round regular head; flowers, open, abundant, very productive.

Fruit, large, obtuse heart shape, occasionally a little angular and with a deep broad indentation at the apex; color, a rich yellow ground, with a bright red cheek, frequently the red covers nearly the whole surface—occasionally it is blotched or mottled; suture, shallow, half round, marked with a line on opposite side; flesh, with distinct radiating lines, yellowish, nearly firm, juicy, sweet, and of agreeable flavor; pit, small, round, regular; stalk, one and a half inch long, inserted in a broad open depression. Season, 4th to 12th July.

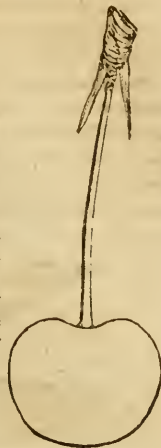


KIRTLAND'S MARY.—Raised by Prof. Kirtland in 1842, described and named by Elliott, in compliment to the daughter of Prof. K. The tree is a strong healthy grower, upright, rounded in form, shoots strong, not rampant; flowers, large and open, very prolific. The fruit is one of the most beautiful of all cherries, quite firm-fleshed, but withal possessing delicacy and high flavor, that renders it one of the most desirable varieties, either for dessert or market purposes.

Fruit, large, roundish, heart shape, very regular; color, light and dark rich red, deeply marbled and mottled on a yellow ground, grown fully in the sun, is mostly a rich, dark glossy red; flesh, with distinct irregular radiating lines, light yellow, quite firm, rich, juicy, sweet and very high flavored; pit, medium, regular, rounded, with distinct prominent lines or ridges, flesh adheres slightly to it; stem, moderately stout, varying in length. Season, last of June and first of July.

FAVORITE.—Raised by Prof. Kirtland in 1842; gravelly soil. Tree, vigorous, half spreading, productive.

Fruit, medium, round, regular, slightly compressed; color, pale amber yellow, with a bright carmine red cheek, mottled and marbled; flesh, pale amber, translucent, delicate, juicy and sweet; pit, small; stem, medium, inserted in an even basin. Season, last of June. This variety requires high cultivation, otherwise the fruit is small, and the flavor only good.



Jefferis Apple.

We gave in our second volume, page 235, an engraving and description of this superior seedling apple. Since that time it has received favorable notice and premiums from many of the Horticultural Societies of the country, and although we do not know that it has yet been fruited out of Chester county, it continues each year to sustain and confirm its first representation, and we think for this section at least should be cultivated by every farmer and fruit grower.

It is to our taste altogether unsurpassed, if not unequalled. Its beautiful appearance, juicy, rich, sub-acid flavor, melting and tender flesh, almost like a pear, will place it at the head of dessert apples in its season.

Isaac Jefferis, on whose place the original tree is now growing, informs us it is this year loaded with fruit, having at least twenty bushels on it. It also bore well last year. That it should bear so well this season, when there is almost literally no fruit of account throughout this district, is an addition to its other recommendations.

Although of so exceedingly tender flesh, we never observed any tendency to rot in the inside, but in all the many bushels we have seen we hardly recollect a single imperfect specimen. It is probably too tender an apple to bear extensive carriage. Paschall Morris & Co., nurserymen of this place, have propagated it extensively and inform us they have had applications from various distant places for both trees and scions.

Information Wanted.

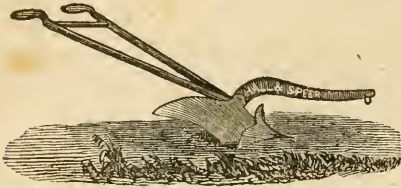
A subscriber, who failed to have his corn ground limed last spring, desires to know whether it would be better to lime the corn stalk land, or wait until the next rotation of crops. He desires to lime the ground, but wishes to do it to the best advantage. Will our readers whose experience will warrant them to speak knowingly on this subject answer?

Prepared Guano.

Kentish's Prepared Guano, advertised in the Journal, we have been informed, is a valuable article, and its fertilizing qualities, no less than its low price (\$20 per ton), is rapidly bringing it into favor.

County Societies.

We hope our different county societies through their officers, or other interested persons, will forward us an abstract of their different exhibitions the present fall for publication. We are desirous to preserve in the Farm Journal a record of these annual festivals in different parts of the State for future reference, and as matters of history. In this way only shall we keep advised of the progress of agricultural improvement and enterprise.



NEW IRON PLOW.

The above cut represents a new iron plow, manufactured by Hall & Spear, Pittsburg, Pa. It is very simple in its construction, and is pronounced by those who have tried it to be a most excellent plow.

Female Compositors.

A few weeks ago we intimated a determination to employ female assistants in the composition, folding, and packing departments of this office. Before the number containing this announcement had time to reach our most distant subscribers, we had two young ladies engaged, whose first efforts to gain a knowledge of the art of printing were commenced upon the present number. The progress one of them has made will be observed by every practiced eye, in the regularity and exactness of this article, which will be "set" by her hands. The other, at the time we are writing, has just been introduced to the "case," or we would also give an example of her progress.

Although sufficient time has not elapsed for our new compositors to tell whether they will like the business, we are satisfied the experiment will prove successful, and that there will be no want of applicants for the situation, as we have already had more than a score of offers since those we have were engaged.

Lawrence County Agricultural and Horticultural Exhibition.

The third annual exhibition of the above Society will be held at New Castle, Pa., October 5th, 6th and 7th. A liberal premium list is published, embracing a wide range of useful objects. We are pleased that the Farm Journal is offered among other premiums, not solely because we are interested in it, but because we know of no one way in which improvement in agriculture may be so well promoted as the circulation of agricultural papers.

Sale of Durham Stock, Maltese Jacks, Southdowns, &c.

We call the attention of our readers, particularly in Western and Central Pennsylvania, to an extensive sale of high bred stock in our advertising columns by Seth A. Bushnell, Trumbull county, Ohio, immediately over the line. This is an excellent opportunity to secure some

of the best blood in the country. The animals have been bred with great care, the father of the present owner, Andrew Bushnell, having been for twenty-five years the most prominent breeder of blooded stock in that section. Hubback cost \$800. We hope the farmers there will avail themselves of so good an opportunity.

J. Thorne's Improved Stock.

The editor of the American Agriculturist has been paying a visit to the farm and stock of J. Thorne, Dutchess county, New York, and gives in his paper the following very interesting details of the different animals, all high bred and probably not surpassed by those of any other person on a single farm in this country. Such men are public benefactors on the largest scale and in truest sense, and will be remembered and their useful influences felt long after the names of the mere politicians of the day are forgotten. The account goes on thus:

Short-Horn Cattle.—Of these Mr. Thorne has a large herd. He began their importation several years since. The most renowned of these; however, were selected for him last summer by Mr. F. M. Rotch, of Otsego, who went out to England, with a son of Mr. T., for this express purpose. Mr. R. was well-prepared to execute the commission before starting, by a previous careful study of animal anatomy and physiology, and considerable practical knowledge at the same time, of breeding.

Of the animals selected by Mr. Rotch, *Grand Duke* (10, 284.) stands at the head of the list. His color is a deep, rich red, interspersed with a few small spots of white in the lower part of his body. He was calved February, 1848, and bred by the late Mr. Thomas Bates, of Yorkshire, England. He is by 2d Cleveland Lad (3,408,) dam Duchess 55th, by 4th, Duke of Northumbeland (3,649.) With the exception of Duke of Northumbeland (1,940,) whom we saw in Mr. Bate's yard in 1841, he strikes us as being the best Short-horn bull within our recollection; and we do not know but take him all in all, he is fully his equal. It is impossible for us to say at this distance of time, and without being able to compare the two together.

His head, and the set of it, eyes, horns, neck, shoulders and arms, are particularly fine; the fore-ribs and crop as well rounded and full as the best of Devons; he is level on the back, has good width of loin, long quarters, deep, full twist small tail, fine legs, soft furry hair, rich cream-colored skin, and mellow handling. He is of large size, imposing presence, and majestic carriage. What more one can desire in a bull, we are at a loss to imagine, and shall not exhaust a dictionary of adjectives—American fashion—in undertaking to define.

The price paid for Grand Duke in England was 1000 guineas—\$5,000. To this, add the risk and expense of getting him to the United States, and then every ounce of his blood will have cost a round sum.

Of the females, *Lallah Rookh* in her present form is upon the whole, perhaps the most perfect in Mr. Thorne's herd; although she does not quite equal Duchess 64th in the width of her brisket and manner of standing on her fore legs, nor is she hardly so full in her quarter; but then we must recollect she is not so old as the Duchess, and may yet equal her in these points. The reader, however, must not misunderstand such criticisms; for it is like trying to point out a flaw in the statues of a Power, or a Crawford. *Lallah Rookh* is as near perfection as an animal probably ever attained. We need not particularize her fine head, eyes horns, &c.

She was calved December, 1851. Her color is a rich red bred by Mr. Townley, of Townley Park, and is by the Squire (12,217) dam Lavinia by Prince Ernest (4,818.) She cost 499 guineas—\$2,000.

Frederika was calved January, 1851. She is the same color, and nearly as perfect as *Lallah Rookh*. She was also bred by Mr. Townley; and is by Upstart (9,760,) dam Feather, by the Duke of Cornwall (5,947.) She cost 300 guineas—\$1,500.

These two heifers were the best animals of their age in Mr. Townley's herd.

Duchess 64th was bred by Mr. Bates. She is that deep rich red, so characteristic of this family, and which we so much admire. She was calved in August, 1849, and is by 2d Duke of Oxford (9,049,) dam *Duchess 55th*, by 4th Duke of Northumberland (3,649.) She has the clear waxy color of the horn at the base, which Mr. Bates so much liked, and which was a peculiar trait in the old *Duchess* tribe, as bred by Sir Hugh Smithsons, afterwards Duke of Northumberland, and subsequently by Mr. Charles Colling. She is of medium size, and not quite so fine in the head as *Lallah Rookh*; but on account of her breeding,—to say nothing of herself alone,—we would give more for her than any other cow Mr. Thorne has. See was purchased at the late Earl Ducie's sale, who bought her at that of the executors of Mr. Bates. She cost 600 guineas—\$3,000.

Duchess 59th, is a clear rich roan. She was also bred by Mr. Bates and purchased of Earl Ducie. She was calved November, 1847, and is by 2d Duke of Oxford (9,046.) dam *Duchess 56th*, by 2d Duke of Northumberland (3,646.) She is large size, stylish, and fine. She cost 350 guineas—\$1,750.

Darling is a deep red, and much like *Duchess 64th* in some respects. She is to be commended for her fine shoulder, fore-rib and great quarter. She was calved June, 1850, and is by Grand Duke (10,284,) dam *Now Year's Day*, by 2d Cleveland Lad (3408.) She was bred by Capt. Dilke, of Masstoke Castle.

Peri is also by Grand Duke, dam *Pink*, by 2d Duke of York (9959.) She was calved June, 1852, and is a deep rich roan. She is fine all over, and about as perfect as *Lallah Rookh*. She has unfortunately had one horn knocked off by accident, which detracts a trifle from her appearance, but does no other injury. She was bred by Mr. Bolden, of Lancashire.

Aurora by 3d Duke of York (10,166) dam *Allspice*, by 2d Duke of Northumberland (3,646,) is another superb animal.

She is red and white, and was calved April, 1851. She has a fine bull calf at her foot, nearly red, got by 5th Duke of York. She was bred by Mr. Trotter, of Middleham.

Mystery was bred by the late Earl Ducie. She is red with scattered white hairs. Calved May, 1850, and is by *Ursurer* (9,763,) dam *Minstrel*, by Count Conrad (3,510.)

In shape &c., she resembles *Duchess 59th*. She has a bull calf, dropped in March, by the Duke of Gloster. He is a deep rich roan, very fine head and eyes, and stylish like his dam. All the cows with the exception of *Darling*, we believe, have been bred to *Grand Duke*; besides several other fine thorough-bred Short-horn cows which do not particularize.

Young Blaco is nearly all red and is a splendid yearling bull. He is by *Blaco* (9,918,) dam *Ellen Gwynne*, by Sir Harry (10,819.) Mr. Thorne used him some in his herd this summer.

The above are only a portion of the superb Short-horns on Mr. Thorne's farm; yet, lest we should fatigue our readers, we forbear further description of them, and turn to the other animals.

Working Cattle.—On no farm have we found four such splendid pair of working cattle as at Thornedale. They are red, and partake largely of Devon and a cross of Short-horn blood. Two of the pairs came from Connecticut, and are like the superb workers one finds in Hartford county. The two other pair are from Otsego county, so famous for breeding fine oxen. One pair of these were recently weighed, and found to be over 4000 lbs. They can be worked on either side, are perfectly gentle, yet quick and powerful. When beef was so high last spring, Mr. Thorne was offered \$300 a pair for them; and though hard at work at that time, they were undoubtedly better beef than half the pretended fat cattle which are weekly brought to this market. We hope Mr. T will exhibit these noble animals, as well as others of his stock, at the forthcoming show of the State Agricultural Society in this city, in October.

Horses.—Mr. Edwin Thorne has a fine, stout, fast-trotting mare, with a splendid filly colt at her foot. She is by the trotting stallion *Jupiter* out of *Gipsev*, by the Long Island Black Hawk, by Andrew Jackson, &c. This colt has an uncommonly elegant set of the neck and head, and is about as near right, all over, as one could desire. She will unquestionably make a fast, stout, and enduring horse when full grown. There is no more valuable stock in the world, than the well-bred trotters of the United States.

South-down Sheep.—These, Mr Thorne has been just as

particular in selecting as he has his Short-horns. His flock consists of the buck 112, which he obtained of Mr. Jonas Webb, of Babraham for 130 guineas—\$650; twenty choice ewes, also of Mr. Webb, seven of which came out in lamb to his buck which took the first prize at the Show of the Royal Agricultural Society at Lewes. The rest took the buck 112 after their arrival here. In addition to these, he purchased the ten ewes from Mr. Luger, which took the first prize at the Show of the same Society at Gloucester; and five prize ewes from Lord Walsingham's flock. Several of these were in lamb to Mr. Luger's old prize buck, which he (Mr. L.) has recently had the great misfortune of losing. We cannot speak too highly of this buck, nor of the ewes and their lambs. They remind us of Mr. Webb's best breeders, and are richly worth the money that has been paid for them. We would go into a particular description of the buck 112, and some of the ewes, if we thought it necessary to show their marked superiority over ordinary South-downs.

Long-wooled Sheep.—Mr. Thorne has a superior flock of these, long, broad, round, fine and well woolled. To produce lambs for his own table, he has crossed a few of his Long-wooled ewes with a South-down buck. This is a favorite cross in England for market lambs, and the mutton is highly prized by amateurs.

Pigs.—Here we found quite an assortment. Berkshires of good size and high breeding. These are the favorites with us, and have been since we first knew them, and that was about twenty years ago.

Next came the Suffolks, which we found a splendid lot. The oldest boar from the celebrated stock of Earl Derby. We should think he would weigh 400 lbs., and has had nothing but grass all summer, which he has picked up running in a narrow lane. He is now turned into an apple orchard, where he gets a little fallen unripe fruit by way of variety; and still he is apparently fatter than half the hogs are in the country at killing time. So much for a good breed. There are several others here of the same kind, three of which are descendants of the imported stock of Mr. Jackson, Astoria—finer than which never crossed the Atlantic.

Mr. Thorne also showed us some Mackay pigs, sent him by Mr. Levi H Dowley, of Massachusetts. They were got by the boar of the late Hon. Daniel Webster, of Marshfield. One of these pigs closely resembled a fair Suffolk, the other is nearly the same shape as the Chinese pigs recently sent us by Dr. Green, head surgeon of the Japan exhibition.

Madagascar Rabbit.—These are the property of young Mr. Thorne, and were selected in England with the same care as the other stock. The building for them is the neatest, best-ventilated, and best-arranged we have yet seen.

One of these had pink eyes, and was a pure white color, which is very rare in this breed.

Poultry.—Dorkings Game Fowls are the favorite breeds here. These also belong to young Mr. T., who has been quite successful with the latter. These he found to lay more steadily, especially during the coldest winter weather, than even the Cochins-Chinas or Shanghais. They would lay about thirty eggs, and then desire to sit, but upon being broken up, they commenced laying again, and so continued till they averaged fifty eggs each. By separating the cock from the pullets soon after they are weaned, he has not been troubled by their fighting, which is the great objection to rearing Game Fowls. They are often so pugnacious as to kill each other by the score. These were sent him by Mr. James B. Clay, of Kentucky, and are much like the Earl Derby's breed, though some consider them superior.

The *Pigeons* here are tumblers, of handsome cinnamon and other colors. Very pretty of course.

Farm Building.—These are among the most complete and convenient we have yet seen. We particularly like the arrangement of the cow stables. The stalls run the whole length of the building on each side, with a wide paved passage-way between, of brick set up on edge with cement. On each side of this brick pavement is a shallow gutter to carry off the liquid into cesspool. From these, the liquid is pumped into a cask on a cart, and then spread over the grass land. It accelerates the growth of grass very much. The stables are high between joints and well ventilated. Glass windows are set on the south side for warmth in winter, and small doors open to the north for summer, besides large doors for the cattle at each end. One of these stables had stalls for cows on one side and for their calves on the other.

This adds to the convenience of sucking them.

The *Farm*, though one of the best in Duchess county, Mr. Thorne is still improving. Aside from grass and hay, his crops are principally corn, oats, potatoes, sugar-beets and ruta-bagas. The latter crop would do credit to old England.

The *Mansion* is handsome, large and commodious. It is surrounded by a wide lawn, dotted on each side by varied mounds and beds of flowers and shrubery. On the front sparkles the lake before spoken of, and the gurgling stream. Trees intersperse the grounds, and a handsome carriage road of the cleanest gravel forks wide from the center, in curved lines to two entrance gates on opposite sides of the park, opening to the main road. In the rear of the house are large gardens and orchards, stocked with a great variety of vegetables and fruits of the choicest kinds.

Such, in brief, is Thornedale, and its improved stock, which it gives its liberal owner great pleasure to show to all who take an interest in such things. The number of these, we are glad to say, are rapidly increasing throughout our country. Would that every farmer appreciated these improvements and profited by them according to his means. How greatly would the comforts, the respectability, and the happiness of the people be increased. How much more highly would they stand in their own estimation, and that of foreign nations, if all strove to do the best they could, each in his own proper sphere.

Hints on the Rearing and Management of Trees.

Vast sums of money are annually spent in this country on trees; it would be impossible to make a close estimate of the amount, but we cannot be very far out of the way in putting it at a million of dollars. We believe we could show by figures that this is not, as it may appear to many, an immoderate estimate; for more than one-quarter of that amount may be set down to Rochester alone. This gives us some idea of the extent and importance of our arboricultural interest, yet it attracts little attention. The men engaged in rearing planting trees are not those who make much noise in the world. We have no arboricultural societies to collect information or incite to experiment and observation—no public gardens or arboreums to test theories and modes of culture—the whole matter thus far has been left to individual effort and enterprise; and as both growers and purchasers of trees usually proceed upon the principles of economy, no great improvement has been made upon old methods; at least, this business has certainly not advanced in the same ratio as some other branches of the useful arts and science. How many of those engaged in the planting and culture of trees, have taken pains to acquire the slightest possible degree of knowledge concerning their structure, the function of the different parts, and their relative connection and influence upon each other? Not one in five hundred. A man spending a hundred dollars for trees does not consider it worth his while to consult the best books that have been written on the subject—he does not consider that a dollar spent in that way might save him fifty in the management of his plantation. A few words of oral instruction from some one perhaps as ill-informed as himself, or a few hints which he finds on the cover of a nurseryman's catalogue, supply the needed information. We are happy to admit exceptions—numerous too. Books and papers are read and studied; but the few who read and seek information from such sources are, when compared with the number of persons who plant trees, but a drop in the bucket. Frauds of all kinds are perpetrated upon people thus exposed by ignorance; for there is no pursuit under the sun exempt from dishonest tricky persons. It is not surprising that we hear, every year, people complain bitterly of their trees. Some they lose totally the first season; others linger along for years without making any considerable growth, while the cause remains a complete mystery. They were nice trees, well planted and every way well cared for. Now there are many reasons for these failures; and if people were as well informed as they should be on this subject—if they possessed a correct knowledge of the essential properties of a tree for safe and successful removal, and understood properly what good planting and good treatment consist in—they could readily account for their losses.

We propose, now, to offer a few suggestions on these topics—first, in regard to the qualities of trees, and how these are to be secured; secondly, on planting and subsequent treatment. We may as well say at the outset, that we are not about to offer either a new theory or practice, but sim-

ply to point out certain principles and details of culture and management, well understood and universally approved by experienced, practical tree-growers.

In the first place, a very large number of the trees sent out from the nurseries are not fit to be planted. We must not be understood now as alluding to any nurseries in particular. The fact of our being a nurseryman will not prevent us from expressing our convictions freely; and when we charge malpractice on the trade, we are prepared to shoulder our share of the blame. We intend our remarks to be applied in a general way, however, and we believe all candid nurserymen will admit the truth of what we are about to say.

It will be generally admitted that hardness is one of the most important qualities of a tree, to fit it for safe removal. How is this to be attained? It is very well known that nearly all purchasers of trees prefer such as are *tall and straight* with a smooth, glossy bark, indicating what is called "thriftness." *Height* is the greatest requisite—in fact, the *sine qua non*—with by far the greater number of purchasers. Now, nurserymen must consult the taste of their customers, and they are compelled to adopt a system of culture that will produce such trees as they find saleable. They must either do this or abandon the trade. To produce these tall, smooth-barked trees, they must manure their ground highly and plant closely. In these dense nursery plantations the light is pretty effectually excluded from all parts of the tree save the top; and as, according to an unalterable law of nature, trees and plants grow towards the light, the tops push upwards and few or no side branches are formed. Those who have not seen this exemplified in the nursery may have seen it in the forest. If a number of Elms or Maples, for instance, are planted closely in a group, and others separately, on the same sort of soil, we find that those planted close together shoot upward rapidly, forming tall, smooth, naked trunks, with a few branches only at the top; while those standing apart in the open space grow in height slowly, but throw out numerous side branches, the trunk is thick, the bark furrowed, and the trees are so different from the others as to have scarcely a characteristic in common, save the foliage. These tall trees, with branches grown in the shade and shelter, have few roots. In a natural state the roots always bear a due proportion to the branches. We find that a tree standing in an open field, and having a wide-spread head, will have roots extending three or four times the distance of those of much more lofty trees do growing in a thick grove or forest. It is on this account that trees left standing when the forests are cut down, seldom survive the shock of the first gale; they are broken or torn up by the roots. Nature beautifully adapts everything to its situation and circumstances. The tree in the depth of the forest is sheltered on all sides, and requires but few roots to resist the force of the wind, or branches to protect its trunk. The tree in the open field exposed on all sides, requires an ample supply of both. It grows moderately, its trunk is stout; its wood is firm, compact, and hardy; its bark is thick; its roots numerous, wide-spread and powerful; its branches ample, evenly disposed, and nicely balanced. There it stands, fitted out completely to meet the requirements of its position.

There is valuable instruction here for us all. Nurserymen know that when their rows of trees are thinned out—say one-half or three fourths removed—the remainder, instead of pushing upward, as they had done before, begins to throw numerous branches, the trunk thickens, and the roots spread and strengthen rapidly. One season's growth, under such conditions, gives them such a hold of the ground that it requires three or four times the amount labor to remove them that it did the year previous, when they stood very close. On this account such trees, although generally regarded as culls, prove most successful when transplanted, and are preferred by experienced planters, even if they be defective in form.

Trees rapidly grown, forced with a rich soil, and drawn up in the shade and shelter of close nursery rows are as ill-fitted to stand the shock of removal into the open ground, exposed to the full force of the sun and wind, heat and cold, as are the tall and slender trees that have grown up in the heart of the forest. The young trees have the advantage in being more plastic; they suffer and almost die; but the inherent vigor of youth enables them in many cases, to weather the storm. But even where they survive the shock, it is severely felt, and shows itself in the slow and feeble growth which follows removal.

In gardens and sheltered grounds this difficulty is of less account; but how small a number of all the trees planted enjoy the benefits of shelter! Scarcely any one dreams of nursing and hardening their trees for a period previous to their final planting; and yet in a multitude of cases, it would be a prudent and profitable course—and so especially with all the more rare, valuable, and delicate trees, shrubs and plants. Even in England, where the climate is much less rigorous and changeable than ours, such proceeding is recommended and practiced. In a work which we noticed some time ago, [*Practical Hints on Ornamental Trees*, Standish & Noble, page 479, vol. iii.] it is recommended, in planting valuable and delicate evergreen trees, to plant them first in some sort of open boxes that would allow of their removal, once or twice a year, from a more sheltered to a more exposed place, until they would finally become sufficiently hardened to bear the exposure of their permanent situation.

It is quite unnecessary to multiply illustrations showing the advantages which young trees derive from being reared in open situations, sufficiently exposed to admit of the growth of side branches, and acquire what we call hardiness. Our nursery trees are in general too close in the rows: we grow three or four times too many on the ground. We are aware that it would add considerably to the cost of the trees, to give them so much more space; but would it not be a saving for the purchasers to pay one-third or one-fourth more for them? We very much fear that we shall have no very extensive reform on this head until people become much better informed on the subject of arboriculture—when, instead of looking for the tallest trees in the nursery, they look for stout, well-rooted trees, that have been well exposed to the sun and air, and thus hardened and fitted to encounter the trials of a removal.

One reason why so few good pyramidal-shaped young trees are to be found in the nurseries, is their closeness. Although they are cut back, no stout side branches are produced, because of the want of a full share of light around the lower part of the trees any shoots that do start out are smothered, and the entire growth is thrown into two or three shoots at the top. A good pyramidal tree cannot be produced—we cannot secure the first branches—without a clear space of two or three feet on each side; whereas, they usually stand within a few inches in the nursery rows.

Another advantage in giving trees abundant space, of which we have already alluded to, is that it promotes the extension of roots. In fact whatever favors the extension to branches, also favors the roots; because, they depend so much upon each other as to be coextensive. But the soil has a powerful influence on the roots. In stiff, clayey soils, trees have bare, forked roots, and few fibres, and that too when the growth of the tree is good. Such trees do not transplant well. Dry, friable soils are more favorable to the growth of numerous fibrous roots, and taken from them transplant more successfully. Culture has a great influence on the roots, too. If the ground be kept continually free and pliable by cultivation around the roots, they become much more fibrous and better for transplanting than if the surface of the ground be permitted to harden into a crust or to be covered with weeds or grass.

Having the trees thus properly grown in abundant space, dry, friable soils, and clean culture, the next important point is to take them up properly; because no matter how a tree is grown, if it be badly taken up it is not fit for successful transplanting. Trees are more universally injured—ruined—in this operation than in any other. We believe it is so in all parts of the world, for our trees imported from Europe are about as badly bruised and mangled as any we have ever seen at home. At the seasons of transplanting, nurserymen are generally hurried, and have to employ raw, untrained laborers, who know or care as much about roots as they do about conic sections. A man may stand over them, and show them, and talk to them, and yet the roots will be cut and mangled. It really requires considerable skill and experience, and a great deal of care, to dig trees. Some have long tap-roots that penetrate the ground deeply, while others spread widely near the surface of the ground. These different characters require different modes of proceeding. Some insist that it does a tree no harm to cut off some of its roots; but we hold that the roots should be taken out of the ground without the slightest bruise or mutilation, if possible. The necessity for curtailing the tops would thus be obviated, and there would be some hopes for the trees. We are utterly opposed to the lopping off both roots and branches of trees, and thus converting them into

bare poles before planting. The generally commended proceeding of pruning or shortening the tops, is a necessity only because the roots, scarcely ever escape injury in some way or other; and as leaves must receive a supply of nutriment through the roots, it is only reasonable that when the roots are reduced, the leaves should also be reduced in a corresponding degree.

Then comes packing for transportation. The less the roots of trees are exposed to the air, between the time they are taken from the ground and the time they are planted the better. This should never be forgotten. If roots be of any value, it can only be when they are sound and fresh. More than nine-tenths of all the trees planted have to be carried a greater or less distance from the nursery, and consequently require packing; and many people, to save a little cost, will run the risk of having their trees ruined. We are satisfied that vast quantities of trees die from bad packing and exposure in transportation. It requires considerable skill and care to pack well. Very few of the European nurserymen can pack for America, as importers well know; and on this account we are always compelled to purchase at higher prices than we might do, in order to secure good packing; for if we were to get trees for nothing, they would be a hard bargain unless well packed. Good packing is equally essential in transporting trees from one part of our own country to the other, because we have great delays. We can get a package almost as soon from Liverpool to New York as we can from New York to Rochester; so that parcels of trees should always be fitted up to go safely twice the distance intended, or twice the time that ought to carry them to their destination. What signifies fifty cents or a dollar per hundred in the cost of securing trees for carriage, compared with running the risk of losing them or having them so damaged that they will not recover for years. Every man who orders trees should say emphatically, "Pack my trees in the best manner;" and nurserymen should be held responsible for this, as much, at least, as for the quality of the trees.

Advice to Housewives

Britannia should be first rubbed gently with a woollen cloth and sweet oil, then washed in warm suds and rubbed with soft leather and whiting. Thus treated it will retain its beauty to the last.

New iron should be gradually heated at first. After it has become inured to heat it is not likely to crack.

It is a good plan to put new earthenware into cold water and let it heat gradually until it boils, then cool again. Brown earthenware particularly, may be toughened in this way. A handful of rye or wheat bran thrown in while it is boiling will preserve the glazing, so that it will not be destroyed by acid or salt.

Clean a brass vessel with salt and vinegar, before using it for cooking.

The softer carpets are shaken the longer they will wear. The dirt that collects under them grinds out the threads.

If you wish to preserve fine teeth, always clean thoroughly after you have eaten your last meal at night.

Woolens should be washed in very hot suds, and not rinsed. Luke-warm water shrinks them.

Do not wrap knives and forks in woolen—wrap them in good strong paper. Steel is injured by lying in woolens. Suet keeps good all the year round, if chopped and packed down in a stone jar, and covered with molasses.

Barley straw is the best for beds. Dry corn husks, slit into shreds, are better than straw.

When molasses is used in cooking it is a prodigious improvement to boil and skim it before you use it. It takes out the unpleasant raw taste, and makes it almost as good as sugar. When molasses is used much for cooking, it is well to prepare one or two gallons in this way at a time.

Never allow ashes to be taken up in wood, or put into wood.

Always have your matches and lamp ready for use in case of sudden alarm.

Have important papers all put together, where you can lay your hand on them at once in case of fire.

Use hard soap to wash your clothes, and soft to wash your floors. Soft soap is so slippery that it wastes a good deal in washing clothes.

It is easy to have a supply of horse-radish all winter. Have a quantity grated while the root is in perfection, put it in bottles, fill it with vinegar, and keep it corked tight.

Ec.

Potato Harvesters.

Three patents for machines to dig potatoes have been granted. The first of these consists of an axle and a pair of wheels, drawn by a pair of horses, and around said axle, which moves with the wheels, a drum or cylinder is arranged, and armed with rows of radial teeth, while immediately behind and beneath, and in the same curve with the periphery of the said radial teeth on said drum, is arranged a fixed rake which has the ends of its curved teeth at the lowest part of the machine, while its rear dard and head extend upward and backward in the curve of the said drum to the highest part of the machine.

OPERATION.—As the machine is drawn forward astride the row of potatoes to be dug, the rake teeth of the fixed rake run into, or under, the hills of potatoes, while the radial teeth on the drum sweep backward along the potatoes toward the curved teeth, and as the dirt falls out, the potatoes are carried rearward and upward between the drum teeth and the curved rake head, and when at the top of the drum they roll off into the cart body. A second machine of this character has also been patented, substituting for the radial teeth on the drum a series of stiff brushes, and for the upper portion of the curved rake head, in the rear of the drum, an endless belt of open work slats, or their equivalent, for the purpose of allowing the dirt to fall out, and to carry up the potatoes and deliver them into the cart body.—*Cultivator*.

The Use of Fruit.

Instead of standing in any fear of a generous consumption of ripe fruits, we regard them as positively conducive to health. The very maladies commonly assumed to have their origin in a free use of apples, peaches, cherries, melons and wild berries, have been quite as prevalent, if not equally destructive, in seasons of scarcity. There are so many erroneous notions entertained of the bad effects of fruit, that it is quite time a counteracting impression should be promulgated, having its foundation in common sense, and based on the common observation of the intelligent. We have no patience in reading the endless rules to be observed in this particular department of physical comfort. No one, we imagine, ever lived longer, or freer from the paroxysms of disease, by discarding the delicious fruits of the lands in which he finds a home. On the contrary, they are necessary to the preservation of health, and are therefore caused to make their appearance at the very time when the condition of the body, operated upon by deteriorating causes not always understood, requires their grateful renovating influence.—*Boston Med. and Surg. Jour.*

Germination of Cherry Stones.

The stones should be washed from the cherries when the latter are fully ripe, and as soon as the surface has dried in the shade, mixed with more than their bulk of sand, and buried in shallow pit in the earth, covered first with flat stones, and then with a few inches of earth. Here they may remain through the winter; but the first moment that the frost disappears from the ground the following spring, they are to be taken out and planted in drills. They may be planted in autumn; but the soil settling hard about them, is apt to prevent their growth, unless it is of the lightest character. Freezing tends to remove the shell, and assists germination. The Mazzard makes the hardest stocks, but the improved heart varieties succeed well in most cases.—*Alb' Cult.*

Massachusetts Hops.

The Inspector of Hops in Boston, urges the hop growers of Massachusetts to be more careful in growing, picking and packing their hops. He says: To all interested in growing and dealing in hops it is well known, that during the last seven years, in point of reputation and character, Massachusetts hops have suffered very materially in comparison with New York hops; have been in less demand and sold at a lower price. This fact is attributable to a combination of causes, the most prominent of which are the following, viz:—Permitting too many male hops, per acre, and too early picking, before the hop was ripe; from bad picking; from packing the hops in unsuitable bagging. The most fatal error of Massachusetts hop growers, has been picking too early, before the hops were ripe, and hurrying them into bags too soon. Under this system of management hops cannot be produced for the brewers in a state of perfection."

London Currants.

A writer in the Horticulturist speaks of the fine currants of the market gardens near London, which are grown in the following manner: They are planted in rows twenty or thirty feet apart, and three or four feet apart in the rows; the ground which is naturally good is highly manured, and cropped between with vegetables. When the plants commence bearing, they are pruned very hard; the greater part of the young wood is thinned out, and what is allowed to remain is shortened back to three or four inches. By this means the trees are always kept short, never attaining a greater height than two or three feet. These strong manured and well-pruned trees produce magnificent fruit, and in great abundance, well remunerating the market gardener for his trouble.—*The Practical Farmer*.

American Flour Abroad.

We are sorry to be obliged to caution our American friends against continuing to send over flour to these kingdoms of inferior quality to that indicated by the brand. We know not where the fault lies, but certain we are that more than the half of what is imported to these kingdoms under the brand of No 1, superfine, is mere rubbish, and discreditable to the character of the American millers.

Previous to the introduction of "free trade," we recollect that Ohio and Western Canal flour bore a very high character, and justly so; but we have perceived since then a gradual deterioration in the quality, to such an extent latterly as to call loudly for interference. An immense proportion of the flour now lying almost unsaleable in Liverpool is of this description, and the continued loss to our merchants has been so great in consequence, that the result will ultimately be a transference of the flour trade to our continental neighbors. French flour decidedly carries off the palm as to quality, and a good harvest or two would place that nation in such a position as to supply us more readily, and on better terms, with a superior article of flour. We would earnestly urge upon such of our readers as may be interested in this matter, and particularly would we address ourselves to our American readers, the vital necessity for their adopting immediate steps to have either an efficient and faithful class of "inspectors" appointed, or to do away with the branding of the quality of the flour altogether, and let the purchaser judge for himself. Let the miller's name, and a particular initial to be adopted by each miller, be branded on the barrels as a matter of course; and indeed, we cannot see how the trade can be conducted properly or creditably on any other system.—*Belfast Mercantile Journal*.

Onions for Poultry.

Scarcely too much can be said in praise of onions for fowls. They seem to be a preventive and remedy for various diseases to which domestic poultry is liable. Having frequently tested their excellencies we can speak understandingly. For gapes inflammation of the throat, eyes, and head, onions are almost a specific. We would recommend giving fowls, and especially the young chicks, as many as they will eat, as often as twice or three times a week. They should be finely chopped. A small addition of corn meal is an improvement.

Allen's Hybrid.

The horticultural friends of Mr. J. F. Allen, have been for some years aware that he had been experimenting, to produce a hybrid grape, possessing the requisites which no one hitherto has combined, of sure and early ripening, rich flavor, abundant crop, and freedom from "foxiness." All lovers of good fruit will be gratified to learn that his long and patient efforts for this object have at length been crowned with complete success. He has obtained a white grape, of the full size of the Isabella, of a flavor unsurpassed by the best hot-house grapes, totally free from the "foxy" taste and smell, and which ripens securely by the middle of September. He has also a purple grape, possessing similar qualities, but not quite so early.—*Salem Gazette*.

A Substitute for Ringing Swine.

Mr. Tubb, an English breeder of stock, has recommended a mode of dealing with these mischievous animals, which it is said may supersede the necessity of putting rings in their noses. It consists in simply shaving off with a razor or sharp knife the gristle on the top of the noses of young pigs. The place soon heals over; and the pigs are thus rendered incapable of rooting.

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A Word of Apology.

Our readers, we trust, will overlook the want of variety in this number, inasmuch as the publication of the reports of the State Agricultural Society and synopsis of the reports of county societies, where we could obtain them, have taken up so much room as to preclude the possibility of giving the usual amount of varied matter. In our next, we trust to make up for all deficiencies in this respect.

Work for the Month.

FARM.—In ordinary seasons this is the last month in the season for out-door labor, and before it terminates the farmer should be prepared for the “blasts of winter.” If not already done, proper shedding and shelter should at once be made for stock not stabled. Remember that the more exposed stock are in cold and stormy weather, the more food they will require. Where the stabling is insufficient, good shelter should be substituted and the animals carefully protected from the wet, and from the east, north and west winds. When it is practicable they should have free access to running water for drink; if otherwise, the pump trough should never be empty. A lump of rock salt should be within constant access. It is scarcely necessary for us to remind farmers to avoid commencing the winter with more stock than their amount of provision warrants. It is a great mistake to stint animals. They should have not only enough to *live* upon, but also enough to *thrive* upon. Implements not already collected and carefully put away in the dry, should be attended to without further delay. Leaves, and all other refuse from which manure can be made, should be collected for litter, &c. If not already provided it is now too late for farmers to supply themselves with sugar beets, carrots, turnips, &c. Where these are at hand commence using early, as cows require succulent food as soon as taken from pasture to keep up a full flow of milk. If allowed to fall off, much difficulty will be experienced in inducing a return.

FLOWER GARDEN.—Orange and Lemon trees, Pomegranates, Lagerstremias, Abutilons, and such half hardy ornamental shrubs as have been standing out, should now be taken up immediately, and placed in a dry cellar. Oranges and Lemons should be placed where there is no danger of frost, and to prevent losing their leaves should have plenty of light and free circulation of air in open weather. Should the leaves drop they will not flower the next season. Lift and pot at once Geraniums, Salvias, Heliotropes, and such other plants as are tena-

cious of frost. If taken up with care they will reward with bloom through winter. Verbenas with good roots, if potted and placed in a warm room where they will continue growing, will keep flowering for some time, but for this purpose it is much better that they should have been kept in pots through summer. Take up also for blooming in parlor Mignonette, Neapolitan Violets, Sweet Alyssum, Stock Gillys and Chinese Primrose. If the ground is very dry water well before lifting, so as to have some earth adhering to the roots. All freshly potted plants should for a few days be kept closely shaded. Cut down and carry away all such plants as have been hurt by frost. As soon as Dahlia tops are killed, lift the roots, cutting off within a few inches of the ground. Dry them a short time in the sun, remove carefully the earth which adheres, then invert them for a few days with tops down to drain off moisture, after which they may be removed to their winter quarters, which may be on a shelf in a dry cellar, free from frost, or they may be packed in dry sand. Lift all tender Bulbs, Tuberoses, Gladiolus, Tiger flowers, Amaryllis, &c., and lay away as Dahlias in a dry place. If not already done, plant beds of Tulips and Hyacinths. Trench a piece of ground, enriching well with short manure. Plant the Bulbs nine inches apart and three inches deep. When hard weather approaches cover with long litter or leaves. Now is a good time to divide and replant Herbaceous plants, Peonies, &c. Put out seedling Hollyhocks where they are to bloom. Lift Carnations and Pinks which have been layered, and place in a cool frame for the winter. Water occasionally, and give fresh air in mild days. Chrysanthemums, if taken up carefully and potted in large pots and well watered, may be retained in bloom for a considerable time in the house. The Lilliputian or dwarf varieties which are generally much later than the others, should be taken up at once and potted. They bloom much finer in the house. Water occasionally with guano water, or liquid manure, to increase the size of flowers. One pound of guano to five gallons of water is a suitable strength. Take up roses for early spring blooming. We recommend for this Pink Dailies, and most of the Bengals, Tea Cels, Devoniensis, Souvenir de Malmaison and Hermosa. To make an attractive display of flowers in-doors, early in spring, when they will be most highly valued, take up and place in large pots Wiegelia Rosea, Persian Lilacs, Spirea Reevesii, Prunifolia, and Forsythia Viridissima. Our native Kalmia Latifolia is much esteemed in England for early spring forcing in pots. Hardy annual

seeds, such as dwarf German Larkspurs, purple and white Candytufts, *Collinsia Bicolor*, ditto *Verna*, *Clarkia Grandiflora*, and *Elegans*. *Gillia Tricolor* should have been sown last month, but if the weather keeps open may still do on a warm rich border; cover up with leaves on approach of severe weather. For potting earth, mix well decayed sods, with short manure, equal parts of each. Plants in windows should be turned around once a week to prevent growing one sided. Timely hints will be given how to treat plants through winter.

VEGETABLE GARDEN.—Dig or plow up ground for next year's crop, trenching with spade or subsoil plow. The exposure to frost and alternate freezing and thawing mellows the soil and destroys weeds and insects. Cut off asparagus tops close to the ground, and clear out thoroughly all weeds. Spread manure over the bed three inches deep, covering slightly with earth from the alleys. These should also be manured, the whole to be forked in and spaded in spring. Take up and secure before severe frosts beets, carrots, salsify, turnips, &c. Place them in moderate sized heaps out of doors, covering first with straw, and then with a few inches of earth, or if cellar room is convenient they may be placed in barrels or casks, mixing earth through them and covering with sods. Have shutters or straw mats at hand for covering cold frames of cabbages, cauliflowers, &c. These should be inured to cold by exposing in moderate weather, covering only at nights. Give air to forcing frames to prevent plants from drawing. Take up cabbages, arranging them in beds, and burying roots and lower leaves in earth, cover with boards, straw or corn-fodder on approach of severe weather. Dig up celery, and for winter use place in beds, planting the first row against a ridge, then fill in earth nearly to the top, then another row of celery, leaving four or five inches of earth between each row. Cover the outside row with straw or manure, and a good covering of straw or corn-fodder over the top. Manure rhubarb beds with a heavy coat, both on plants and in alleys, which should be dug in the latter; cover with straw, litter or cedar brush, &c., lettuce, spinach, corn salad and parsley. Take up horse radish, and lay away in sand or earth for winter use. Dig up parsnips for early consumption, and place in barrels, covering with sod. Collect and preserve pea sticks, bean poles, &c. Gather up cabbage stumps and all other rubbish, and haul to the manure heap.

State Fair.

The very full report in the present number, of the late State exhibition, makes it unnecessary to add much more. In every respect, it exceeded any heretofore held in Pennsylvania, and in many departments surpassed all others yet held in this country. The nett proceeds we understand from the Treasurer, will exceed \$10,000. This would have been materially increased, but there is every reason to believe that many persons were admitted by the unwarrantable use of members tickets. We heard of one tavern keeper who boasted of his ticket having admitted fifteen persons. Tickets were also freely passed by those inside, through crevices in the fence to outsiders, who thus gained admittance. In no other way can the dis-

crepancy be accounted for, between the total amount received, and the vast number of visitors to the grounds, variously estimated from 150 to 250,000. The results as they are, however, are cause of congratulation and just pride to the whole State, and the good effects of the exhibition will we trust be long felt. Owing to the judicious arrangements of the managers, and especially of the indefatigable secretary, R. C. Walker, no disorder or confusion occurred, and with one or two exceptions exhibitors and contributors were well satisfied with their accommodations. We do not think there was an absolute deficiency in a single department of live stock; although the number perhaps was not quite so large as has sometimes occurred in other states, this was amply made up in their very superior quality. Some of the very best horses, neat cattle, sheep, swine and poultry, ever seen at a single exhibition in this country were on the ground and attracted universal admiration. We ourselves had not expected so large or so fine a display. Pennsylvania now has within herself the means of rivalling in this particular any other section of the union.

In agricultural and horticultural implements and machinery contributed by the Philadelphia Houses, embracing every conceivable implement for the farmer or gardener, of the highest finish and best construction, it was universally admitted that the display had never been *equalled*. Many farmers from remote corners of our State went away with eyes wide open at the new and improved labor saving machinery exhibited, which solved the problem of how to remedy the scarcity and high wages of farm hands. Mowing and reaping machines, unloading forks, threshing machines, horse powers, hay and straw cutters, about twenty varieties, butter workers, and improved churns, grain fans, cider mills, lime and guano spreaders, hay presses, and innumerable other articles, also demonstrated in language louder and stronger than either books or orators speak, that genius and science have embraced at last the occupation of the farmer, the noblest one on earth, and given him the means of lightening his labors, simplifying his daily operations, and largely augmenting his profits. This department of the late exhibition will, we have no doubt, be worth hundreds of thousands of dollars to Pennsylvania, in originating new ideas and suggesting improvements to the farmers present. In another column we call attention to several new articles, new at least to most of us in Pennsylvania, where the adoption of improved implements has not quite kept pace with that in other states. The Horticultural display, perhaps excepting *quantity* of fruit, notwithstanding the unfavorable dry season was thought to equal the usual fall exhibitions of the Philadelphia Horticultural society.

We certainly never saw finer specimen plants from the Green House, finer roses, or larger and more attractive vegetables. Philadelphia already has a fame in these matters, both far and near, which was well sustained to her own credit.

The fine arts were also well represented, and the articles usually embraced in the exhibitions of the Franklin Institute were brought out, adding greatly to the interests of the occasion. The crowd for the last two days in the tents appropriated to these objects, was so great as to prevent any thing being seen to much advantage. Some

efforts were made to have the period of exhibition extended, which was very properly declined by the President and executive committee. However gratifying this might have been to the citizens, it would have been unjust to the farmers, who had their live stock away from home at great expense and loss of time, and who had depended on the published arrangements of its lasting but four days. Many contributors also had arranged to be at the New York and Maryland Fairs, which closely followed our own.

The eminent success of the late exhibition has caused a large expression of opinion in favor of the State Fair for 1855 being held at Philadelphia. It is indeed urged vehemently in the city papers. We take opportunity to express our hope that wherever else it may be held the place may *not* be Philadelphia. The reasons against it strike us as most obvious. First, it should be recollected that the *object* of the Pa. State Agricultural Society, is not *directly* to make money by its exhibitions, but to benefit the cause of agriculture by awakening a spirit of improvement in *all* parts of the State, and displaying most especially to remote and inaccessible districts, what has been done already, thus showing what may be done.

If the society was now able to afford it, instead of locating the fair where there is the densest population, and the most improved farming, we would rather take it into one of our remote counties, and stir up the farmers *there*. Let its benefits be extended where they are most wanted. In this way all parts of the commonwealth will be roused up and the good results finally seen by all, and felt in an aggregate of greatly increased productiveness and development of resources.

Pennsylvania is so favored that her resources, both agricultural and mineral, only want *developing* to place her far ahead of any state in the Union. She has not to *create* but only to *develop*. Among other results of the late fair is the brightening prospect it gives for the "State Farmers' School." A liberal spirit in the legislature, or rather the *absence* of a mean, contracted and suicidal spirit, aided by the increased funds of the society, would soon establish on a proper basis, that great project for the welfare of Pennsylvania. We hope, at the coming session, that the Act incorporating the Pennsylvania Farm School may be modified and put into some rational form.

Among other very prominent attractions at the exhibition, the twenty yoke of oxen from Chester county were conspicuous. They were driven around the grounds, together to the very great admiration of the spectators. They were all very large, of fine forms and in fine condition, well broken and tractable. Not a pair of them, but would separately have graced any exhibition in the country. They of course received the \$50 premium. Thirty-five yoke were offered by Chester county farmers for the occasion, but as only 20 were required the other 15 were left. These were nearly, if not quite, equal to those taken.

Suffolk Swine.

We observe by the Auburn Journal, that our friend John R. Page carried off some of the best premiums for Suffolk swine at the recent Cayuga County Agricultural Fair.

A Superior Southdown Buck.

Our friend John Worth, near West Chester, already widely known as a breeder of fine Southdowns, has lately made a visit to J. Thorne, Dutchess county, New York, and purchased of him at a high figure, a buck lamb for the improvement of his own flock. With the exception of two or three bucks, which had been previously reserved on account of their being bred by different persons in England, and therefore valuable for crossing and to avoid too close breeding, J. Worth was allowed the pick of the whole flock. With his long experience and discriminating judgment in such matters, and with the best and most carefully selected sheep in all England to choose from, it may of course be supposed the opportunity was fully embraced.

A buck was chosen sized by the imported buck which was let at Jonas Webb's letting for 130 guineas (about \$650), and out of one of the celebrated Luger ewes. Mr. Luger is the only breeder, with one exception, who has won both the first and second prizes with yearling Southdown ewes at the fairs of the Royal Agricultural Society.

We congratulate our Chester county farmers, and those of the State, that so valuable an animal has been introduced. A cross from him, with such ewes as are already owned by our friend Worth, will no doubt result in something equal at least to any flock in the country, or perhaps elsewhere.

Experiments with oats.

FRIEND DARLINGTON:—Some experiments I made last spring in growing oats I thought might not be uninteresting to the readers of the Journal, though a little out of season.

I plowed about half of a corn stalk field, and drilled in the oats; the other half I put in with a large hoe-harrow without plowing, intending to hoe-harrow it both ways, but by the time it was half harrowed the second time, there came a heavy rain and it was not finished. The oats grew about equally well all over this part of the field and was decidedly better than the part plowed and drilled, (about the same quantity of seed to each part.) A second stalk field I plowed about one third, sowed it broad cast and harrowed with a spike harrow. The balance of this field was put in with the two horse hoe-harrow, as a part of the other had been, with only once going over; about the same quantity of seed sown on all parts. At harvest the oats was near a fourth better on the part not plowed.

Both these experiments are in favor of not plowing, yet I presume if the fore part of the season had been dry instead of wet, the result would have been different.

October, 1854. Respectfully, T. S. WOOD.

White Golden Flint Wheat.

A sample of this superior wheat was exhibited by Wm. Stavelly, Esq., at the recent fair in Bucks county, and attracted unusual attention and commendation. The grains were about twice the size of the ordinary white wheat, round and plump; while the color was about the same as the old, and with the millers, favorite variety. Mr. Stavelly informs us that he sowed two bushels on an acre last fall, which produced about twenty five bushels last harvest. The ground upon which it grew, he does not think the best, and is of ap-

union that it would have produced about the same amount of Mediterranean wheat. As an evidence of the estimation in which he holds it, we may add that he has put the whole twenty five bushels in the ground for next year's crop.

Itch, or Scab, in Sheep.

A correspondent of the New England Farmer communicates the following in relation to this disease:—

"There are few diseases, perhaps, more generally or more deservedly dreaded than the "scab". In many sections of the country, where sheep husbandry is pursued on an extensive scale, the losses resulting from its prevalence, in years past, have been immense. It is, indubitably, a contagious disease, and while it is easily propagated by simple contact, is often communicated to animals that have never been brought in collision with those diseased. Like many of the virulent and loathesome diseases which have of late astonished mankind by their unheralded appearance, and perplexed medical men by their inveteracy, it may well be called "a pestilence which walketh in darkness;" though we are not perhaps warranted in considering it strictly epidemic, though it sometimes seems to be conveyed through the atmosphere, and particularly in those seasons when there is a super-abundance of wet, and which are generally unfavorable to sheep in various other ways. The diagnoses, and treatment of this troublesome disease, are thus explained by one whose experience in veterinary practice entitles his opinions and prescriptions in this, as well as in all other matters connected with his profession, to respect:—

"It is discovered by the animal's constantly rubbing or scratching itself, and making at the same time a peculiar motion with the lips. The scabs are sometimes dry and sometimes moist, and spread very rapidly, though the animal continues healthy in other respects, and generally more healthy than before. Afterwards, however, the disorder becomes internal, the sheep becomes emaciated, and dies from weakness and pain. If the scab is observed at an early period, it may easily be cured, or at least prevented from spreading. One of the best remedies is a strong decoction of tobacco to be applied to the diseased parts, after scratching off the scabs with a comb or other instrument. The decoction of tobacco mixed with lime-water and oil of vitriol, and used constantly for some time, will generally effect a radical cure: another excellent remedy is a decoction of hellebore mixed with vinegar, sulphur and spirits of turpentine. Internal remedies are of no use, except when the disorder has induced other complaints by weakening the general health."

"Sheep are no doubt greatly injured, oftentimes, by confinement to low, wet pastures, where they are forced to eat aquatic grasses, and repose on damp and cold ground. It is generally well known that the most favorable regions for sheep breeding, and those in which it has been most successfully pursued, are those of a hilly, mountainous description, and where little or no aquatic vegetation is produced. High lands, even if dry and arid, are always favorable to this animal."

Death of a Distinguished Horticulturist.

Captain Josiah Lovett, 2d, of Beverly, died at his residence Tuesday morning, at the age of 63 years. The deceased was widely known as a scientific horticulturist, a public spirited man, and an intelligent citizen. He has been one of the most active members of the Massachusetts Horticultural Society for a long series of years, and was highly esteemed by his associates for his attainments. Mr. Lovett has been a member of the Massachusetts Senate, and filled other public trusts.—*New England Farmer*.

Report on Guano.

[The following Report on Guano by the Committee of the Chester County Agricultural Society, was recently published in the Register & Examiner, from whence we transfer it to our pages:]

J. L. Darlington, Corresponding Secretary of the Chester County Agricultural Society.—Sir,—It will be recollected, that at a former meeting of this society there were several committees appointed to collect facts and report on various subjects of interest to the society and the friends of agriculture, and amongst them the undersigned were appointed to report on the utility of Guano as a manure. Your committee therefore respectfully report that they have given the subject what attention it appeared to demand. Their chairman addressed circulars containing interrogations calculated if truthfully answered to bring out much useful information to a number of gentlemen in this county and elsewhere, who are known to have been in the practice of using guano extensively. Many of these responded promptly to our interrogations. The practical experience of your committee enables them, as they believe, to arrive at just conclusions. Guano, as is well known, is composed of the excrements of fish-eating birds, and the decomposed carcasses of fowls and fish that may die or be killed on the island where those deposits are to be found. It is not deemed necessary to enter into the detailed analysis of guano in this report, but rather to confine ourselves to facts shown by actual experiments on the soil and crops either within our own knowledge or the knowledge of those on whom we can rely with confidence. We will however mention the several kinds, with such remarks upon each as may be suggested to our minds as we proceed.

THE ICHABOE GUANO found on an island of the same name on the coast of Africa was a good article. Some of your committee have seen it used to great benefit; but the supply was very limited, and it has been exhausted. It was generally known as African guano.

ANAGAMOS GUANO is similar to the Ichaboe, but very limited in extent. It is said to be gathered by the natives with their hands from the rocks. It is presumed that but little if any of this kind of guano was ever imported into this country. We have not therefore any evidence of its utility before us.

BOLIVIAN GUANO which is found on the west side of South America, had at one time a high reputation, but some cargoes proving of but little value it was not sought after by farmers, and hence but little if any has been in the market for some time. Mr. Robison, a scientific gentleman who has with praiseworthy zeal devoted much time to this important subject, says, "that the Bolivian guano being found in a latitude where it sometimes rains or where it is liable to be drenched with the sea spray, fully accounts for portions of it being of little value to agriculture."

TALDANA BAY GUANO.—Considerable quantities of this guano has been shipped to England, but so far as your committee are aware none of it has reached this market. It being found in a climate similar to Patagonia, it is presumable that its qualities are not dissimilar to Patagonia guano of which we shall presently speak.

CHILIAN GUANO.—The reputation of this guano is by no means good, but in a trial of this article on the farm of one of your committee the present season, on oats, the result was fully equal to that of Peruvian, and at a less cost; but whether it can always be relied upon is a matter of doubt to your committee.

PATAGONIAN GUANO.—This kind of guano has been more extensively imported into the United States than any other except Peruvian, but owing to the fact of its being found in

a latitude of sunshine and showers, both of the utmost intensity, its quality has been considered by scientific men as far inferior to Peruvian. One of your committee having used it frequently, is of the opinion that it is not so much inferior to Peruvian as some writers would make it appear; he has frequently tried the two in the same field, at the same cash out-lays per acre, and could not see any difference in the result, there being about 30 per cent. difference in the cost per ton, and whilst 300 lbs per acre of Peruvian will raise as good crops as 400 lbs of Patagonia. The preference is, however, in favor of Peruvian on account of freight, hauling, sowing, &c.

PERUVIAN GUANO.—This is not only found in the largest quantities, but is really the most valuable guano yet known to the agricultural world, and we trust it will not be thought out of place here to dwell some what more at large on its history and character than we have done on the other kinds. This kind of guano is found, as its name indicates, along the coast of Peru in South America, on rocks and islands, and History informs us that it was known and much used by the natives in the early part of the sixteenth century some three hundred years ago. In the time of the Incas, anterior to the invasion of that country by Spain, and inhuman barbarity of Pizarro, the country along the coast for two hundred leagues had been manured and made fertile by the use of guano, and so highly was it valued at that time, that the Inca's government made it a capital offence to kill any of the sea fowl by which it was deposited. It has ever since been employed along the coast as a manure, and the agricultural success of that thinly peopled region is mainly dependent on guano for success at this day. The Peruvian guano imported in this country was principally taken from the Chincha Islands in latitude 13° and 14°, about 12 miles from the coast of Peru in the Bay of Pisco, with a few cargoes from the Lobos Islands near the same coast. Peruvian guano derives its superiority over all other guano, principally from the fact that rain never falls on those islands where it is found. The waters around these islands are alive with fish and countless thousands of fish-eating birds make this their abode; and after satisfying their ravenous appetites on the finny tribe, retire to these islands until hunger and an empty craw prompts them again to deal destruction among the watery inhabitants; and this process having been going on and this mass of excrement accumulating for thousands of years, the amount of guano first found on those islands was immense. Humbolt in his history of South America gives the thickness of some deposits as 50 to 60 feet, and although many doubted the correctness of this historian we find that the actual surveys made by the Peruvian Government some years since, have proven that the guano deposits in some instances are from one hundred to three hundred feet thick, and that there was at least twenty millions of tons at that time available.

Wishing to be as brief as possible your committee will now proceed to answer some of the inquiries that are involved in this important subject.

First—Is guano Profitable as manure?

In answering this inquiry we will lay before you the testimony of gentleman of large experience and undoubted veracity, and in connection therewith give you the individual experience of those of your committee who have used it to some extent. For some of the testimony adduced we are indebted to a work on guano by Mr. Robison. Thomas P. Stabler, of Montgomery county, Md., who is a gentleman of the highest degree of intelligence and integrity, a practical and scientific farmer, an exemplary member of the society of Friends, and with whom one of your committee is happy to have some acquaintance, thus writes: "In the summer of

1845 I prepared 17 acres for wheat; about 5-6 of it was extremely poor; upon a portion of the field was put 112 cart loads of manure from the barn yard and stable; on the remainder of the 17 acres I sowed 270 pounds of good African guano per acre; there were two small pieces left without manure of any kind on the best part of the field. Men of good judgment and experience were of the opinion that without the aid of guano, I could not have saved more than from 60 to 70 bushels of wheat from the field; and the product was 320 bushels or nearly 19 bushels to the acre, while the parts not manured were scarcely worth cutting." Let us see how far friend Stabler was benefitted in this experiment. On that land where no manure was put he raised about 4 bushels of wheat to the acre worth say \$4; where the guano was sown he raised over 19 bushels (he says it was decidedly the poorest part of the field) worth \$19; deduct \$4,82, (the cost of the guano which was African at \$40 per ton,) which leaves a clear profit of \$14,18 per acre, with an ample supply of straw to pay incidental expenses. Nor is this all; hear him further in reference to this same field. "This field was sown down with clover the next spring, and this time (that is two years after) its appearance affords as strong evidence of great improvement in the land as it did during the growth of the wheat; it has been pastured freely during two summers, and been exposed to the action of the frosts of two winters, and upon the guanoed portion of the field I have not seen a single clover root thrown out by the frost, while from the part manured from the barnyard it has almost entirely disappeared."

The Hon. James A. Pearce, U. S. Senator from Maryland a farmer in high repute says:—"In April, 1845, I applied 350 lbs of Patagonia guano to an acre of growing wheat, the land being entirely unimproved and very poor. It was applied as a top dressing mixed with a small portion of plaster, and the wheat crop was doubled at least; fine clover succeeded it, and in two crops one of corn and one of small grain, three and four years afterwards, the effect of the guano are still apparent." Here is strong testimony not only as its utility to the present crop, but of lasting qualities as a manure, and that too when applied as a top dressing, which is now well known to be the most unfavorable way it can be applied.

The Hon. John M. Clayton, of Delaware, bears the strongest testimony to the profitable and lasting effect of guano on his lands; and in addition we have before us an account of experiments tried by C. P. Holcomb, Esq., of the same state whose fame is abroad as a scientific farmer, and a gentleman of veracity. He says a farm "he owns near Dover which was celebrated for its poverty before he used guano on it is now equally celebrated for its productiveness, and that no greater blessing was ever bestowed on the state of Delaware than the discovery of guano." Your committee have before them certificates of numerous experiments with guano in Pennsylvania all tending to confirm their good opinion of it as a manure. In New Jersey, we have ample and convincing evidence that it acts well upon their sandy soil. Edward Harris, an enterprising farmer at Moorestown, on the sandy region east of Philadelphia, speaks in the highest terms of guano as a cheap and lasting manure. To his name we might add those of James Buckalew, Commodore Stephens, and Professor Mapes, all men of eminence, experience and integrity who bear their united testimony to the great increase in crops and fertility of the soil of New Jersey from the use of guano. Your committee might thus bring testimony from intelligent and enterprising agriculturalists in almost every state in the Union to sustain the assertion that guano is a cheap and lasting manure. But the length of this report admonishes to be more brief, and after a few experiments in our own and adjoining counties, and a brief expo-

sition of our conclusions we will close. In the southern part of this county (once known as "serogy") and the adjoining portions of Lancaster and Cecil counties, guano has worked wonders. Two of your committee are familiar with results, and will give a few of them. An enterprising farmer near the Brick meeting House, Md., two years ago raised twenty five bushels to the acre (on worn out land,) with 250 lbs to the acre, mixing it with plaster and ploughing it down. We have repeatedly seen good crops of grass follow a crop of wheat raised on worn out land which moved well for two or three years afterwards. One of your committee tried a piece of miserably poor land in corn last year with guano; and the result was at least 40 bushels to the acre. About two acres was taken into one of his improved fields by moving the fence, and on the unimproved part he sowed about 300 lbs of guano per acre and ploughed it under, the result was as above stated and the whole field was this year in oats, with a light coat of guano on it all, and the two acres produced decidedly the best crop, notwithstanding the improved part of the field had been four times limed and twice heavily manured within the last 12 years. Your committee have seen farms, that scarcely produced enough to sustain the occupier, made to yield an abundance by a moderate use of guano, and such has the effect produced that ("serogy") is now no where to be found. Unimproved lands in the region alluded to have more than doubled in value since the discovery of guano. And why? Because with it as a manure the poorest land can be brought at once into profitable culture. We have assurance by a Newlin farmer of high reputation that 300 pounds of guano to the acre has produced him better wheat and grass than a heavy coat of manure in the same field. The clover stood the winter better and mowed and pastured equally well. We have before us the strongest testimony that guano is a superior article for all kinds of vegetables, and many of the peach growers testify that guano will prevent and cure the yellows in peach trees, and prevent the worms from injuring all kinds of trees.

Your committee therefore arrive at the following conclusions:—That guano is a cheap, profitable and lasting manure; that it not only increases the quantity but materially improves the quality of every thing that is grown by it; that by causing young clover to grow more vigorously it is prevented from being thrown out by the winter frosts; that guanoed wheat is not so liable to be injured by fly. There is no kind of manure in the opinion of your committee, so profitable to the farmer. Peruvian guano is believed by your committee to be preferable to any in the market; it should be mixed with plaster (at about one-half a bushel of the latter to one hundred pounds of the former) before sowing, should be sown broad cast and immediately ploughed under, at the rate of from 300 to 405 lbs to the acre. It is good for all crops on all soils, but acts better in wet seasons than dry.

Respectfully submitted,

BENJ. J. PASSMORE,
E. V. DICKEY,
WM. WEBB,

How to clean Animals and Plants of Vermin.

M. Raspail, in the English "Journal of Agriculture," gives an account of a plan for destroying vermin on animals, and also on trees and plants. The process he recommends is to make a solution of aloes, (one gramme of that gum to a litre of water,) and by means of a long brush to wash over the trunks and branches of trees with this solution, which will speedily, he says, destroy all the vermin on them, and effectually prevent others from approaching. In order to clean sheep, or animals with long hair, they must either be bathed with this solution, or be well washed with it. The

writer mentions several trials which he made of the solution with the most complete success, and very strongly recommends it to general use.—*London Advertiser.*

Advantages of Under-Draining.

Waring, in his "Elements of Agriculture," states that the advantages of under-draining are many and important, and enumerates the following:

1. It entirely prevents drought.
 2. It furnishes an increased supply of atmospheric fertilizers.
 3. It warms the lower portions of the soil.
 4. It hastens the decomposition of roots and other organic matter,
 5. It accelerates the disintegration of the mineral matters in the soil.
 6. It causes a more even distribution of nutritious matters among those parts of soil traversed by roots.
 7. It improves the mechanical texture of the soil.
 8. It causes the poisonous excrementitious matter of plants to be carried out of the reach of their roots.
 9. It prevents grasses from running out.
 10. It enables us to deepen the surface soil.
- By removing excess of water—
11. It renders soil earlier in the spring.
 12. It prevents the throwing out of grain in winter.
 13. It allows us to work sooner after rains.
 14. It keeps off the effects of cold weather longer in the fall.
 15. It prevents the formation of *acetic* and other organic acids, which induce the growth of sorrel and similar weeds.
 16. It hastens the decay of vegetable matter, and the finer comminution of the earthy parts of the soil.
 17. It prevents, in a great measure, the evaporation of water, and the consequent abstraction of heat from the soil.
 18. It admits fresh quantities of water from rains, etc., which are always more or less imbued with the fertilizing gases of the atmosphere to be deposited among the absorbent parts of soil, and given up to the necessities of plants.
 19. It prevents the formation of so hard a crust on the surface of the soil as is customary on heavy lands.

Marrow Squash.

This delicious vegetable is grown in great abundance on the fertile fields of Marblehead. While the crops in other places are cut off by the bug on the leaf, or the *Maggot* at the root, there it would seem, the plants find no obstacle in the way of going ahead.

Perhaps it may interest some to know how this is brought about. As I passed the field of Mr. Hathaway, situate on the right hand side of the road as you go from Lynn to Marblehead, I saw more than two acres covered with squashes as luxuriant as though no drouth had prevailed. On inquiry of the proprietor, I learned that the sod was turned in the spring, and pulverized with a fair coating of compost thereon, and the seeds were planted in hills eight feet apart leaving three plants in a hill. Now the ground is covered with an abundance of squashes, varying in size from three to ten pounds each, estimated to exceed ten tons to the acre, commanding in the market \$35 a ton—amounting to \$300 an acre. This was not the only field I saw; others of like character are to be seen. On the ground of Mr. Washburn, Mr. Howe, Mr. Stone and Mr. Brower, and others in the neighborhood—though not so abundant. Whether those crops are brought about by a peculiarity in the soil—or in the manure applied. or in the vigilance with which they are tended—they are to be seen by any one who will look at them.—*P., in New-England Farmer.*

Raising Fruit Trees.

This is one of the most important of the farmer's duties, and one in the execution of which he can rely but little on the experience of the generations which, in this country, have been before him.

As to the value of fruit trees, as a source of profitable income, all doubt has long since vanished. Fruit in great varieties may be profitably raised for home consumption, and the market is always open and seldom refuses a paying profit. A single orchard may fail—or a single variety of fruit—but this luxury the people will have, cost what it may. Apples, pears, quinces, plums, gooseberries, peaches, blackberries, cherries, grapes, and even walnuts, always find a market.

We know that orchards deteriorate, but still apple trees live quite as long as their owner. Fruits deteriorate. But this process is very slow, and new varieties take the place of those run out. The Newtown pippin has been a standard fruit for one hundred and fifty years, and is now as good as ever. The Baldwin apple has stood among the first varieties for more than one hundred years. If we are not mistaken, some of the earlier trees of these kinds are still in bearing. One pear-tree, at least, is known, which is over two hundred years old—the Endicott pear-tree, in Massachusetts; and we are told by Mr. Proctor, that another, eighty years old, has recently made twelve or eighteen inches of wood in a season. The golden pippin was commended as early as 1660, and has ever since retained its high rank.

Surely this is sufficiently "permanent" for a generation found to extend only to thirty years.

But beside well-known fruits, new varieties may be produced of equal value, and this department need be limited among scientific fruit-growers no more than the care of an old orchard. Indeed, the latter needs more science than the originating of new fruit. There is no magic known only to a few, which will ever tend, in these experiments, to insure peculiar success.

Plant your nurseries, grow your trees, and try your chance among the rest. One new valuable fruit will pay for fifty failures.—*Plow, Loom & Anvil.*

Irish Potatoe Peelings.

Some time in March last, a negro boy of ours was sent from the kitchen to the pig pen, to throw in some of the raw peelings of the Irish potatoe. The boy picked out those peelings containing eyes, and planted them in a fence corner. When the frost cut ours down, the little nigger chuckled at his *tater patch*—frost never touch him.

A few days since, we saw the little fellow staggering under a load of something in a large basket on his head, he approached, showing a set of ivory, and with a knowing look. Just look here, massa Charles, see what i'se made from dem tater skins? beat your big taters all to smash. We looked in the basket, and to our astonishment saw near a bushel of as fine Irish potatoes as were ever raised in any country; they were of uncommon size and as mealy as a boiled chestnut. Master! says little wooly, ain't you going to put it in de newspaper, how little nigger make big taters from peelings in de fence corner, and beat he old master wid all his gwanner and gypsum? We promised to put it in the "moose paper" and here it is. "White folks" may take a lesson from the little negro's economy. There is many a fence corner that might produce a good crop of Irish potatoes.—*Soil of the South.*

Comparative Weight of Sheep and their Fleeces.

I like friend Batchelor's suggestion of having the ratio shown between the weight of sheep and their fleeces. As I believe that (*ceteris paribus*) other things being equal, sheep as well as other animals consuming food in proportion to their weight, and hence those sheep are the best for wool growing, which will shear the most and best wool in proportion to the weight of carcass, and in selecting a sheep to breed from I always take that into consideration.

At shearing time I weighed my ewes fleece, noting the weight and numbering the ewes—the yearlings were not numbered. I weighed two of the ewes a few days since, and found No. 1 weighed 77 lbs., the fleece 6 lbs. 6 oz.—equal to 1 lb. of wool to 12.08 lbs. weight of animal. No. 2 weighed 62 lbs., the fleece weighed 5 lbs. 6 oz.—equal to 1 lb of wool to 11½ lbs. weight of the animal. The ewes each raised a lamb. The wool was washed on their backs, and of one year's growth. The quality was very good, being a cross of Saxony and Merino.

I would have been glad if friend Batchelor had given us the weight of his lambs, they must have been diminutive. Who will forward the weight of some of their bucks and their fleeces? I would remark that mere weighing will test but little, unless the fleeces can be placed side by side to test their quality and condition.—*Ohio Farmer.*

Watering by Trenching and Draining.

That watering is a very important element in the economy of vegetation, may be readily conceived when it is known to form upwards of one-half of all green vegetable matter, and serves as a medium for the conveyance of all their food. All mineral ingredients that enter into the system of plants, must be in a state of solution, or so minutely divided as to be carried along with water. Even the gaseous elements that enter by the roots, are introduced with water, since it is supposed that they cannot enter into the aeriform state.

In cultivation of the soil, the most important inquiry is, its relation to water. It is waste both of time and money to attempt improvements on wet lands until they are drained. I am aware that draining is not generally recognized as an indispensable auxiliary to successful cultivation, but it is, nevertheless, a fact that soils, even of a dry nature, will support a more luxuriant vegetation after being undermined with drains, than they did before. The reason is simply this: All soils have their respective absorbing properties, and if the surplus which is not retained by absorption, is not carried off by drains, it becomes injurious. Air is admitted, the soil is rendered more porous, water percolates freely into it, the air holds moisture in suspension, and when the surface supply fails, this suspended moisture is again brought up by capillary attraction, a principle in cultivation which is not generally known.

But by far the best preventive of the evil effects of severe drought, is *deep cultivation*. Loosen the soil, no matter how deep, so that the best soil is kept on the surface. *Trenching* is undoubtedly the most thorough process of deepening soil. The advantages derived from it are various. The absorbing capabilities of the earth are increased, and a large supply of moisture is thus retained. The roots of plants can extend into a medium where they are exempt from the extremes of drought and heat, and obtain a more regular supply of nourishment, being neither so likely to suffer in wet, or burned up in dry weather; as in the former case the surplus passes freely down, and in the latter is drawn up by capillary attraction, more especially where a judicious system of surface stirring is preserved in, preventing rapid surface evaporation.

In addition to the supply of moisture thus secured, trenching, when properly performed, transposes and disintegrates the soil. The surface that has been exhausted by continual cropping, is replaced by a portion of sub-soil, enriched with the nutritive matters that have naturally sunk and been washed down with rains from the surface, and carried beyond the reach of roots; the manures applied are more freely incorporated with the soil, and their action becomes more regular and uniform, and more directly available for the purposes of vegetable growth.

Artificial waterings are often misapplied; for instance, it is no uncommon occurrence to see a small basin formed around the stem of a large tree, into which a few gallons of water are poured daily. This is all but useless, since the absorbing and feeding points of roots form a circle at a considerable distance from the stem, consequently the water cannot reach them. Newly planted trees are also frequently killed through kindness in this respect. A tree with mutilated roots and scanty growth of leaves, requires very little water. Mulching over the roots with a covering of tan bark, manure, &c., is much more expedient than a direct application of water, which cools the soil and retards growth.

Soil that is properly aerated, deeply trenched, and judiciously manured, will support a luxuriant growth, no matter how long a dry spell we may have, more especially if the surface is kept loose and open, to prevent, in some degree, evaporation of moisture, and radiation of heat.

Germantown Telegraph.

WM. SAUNDERS.

Wild Oats.

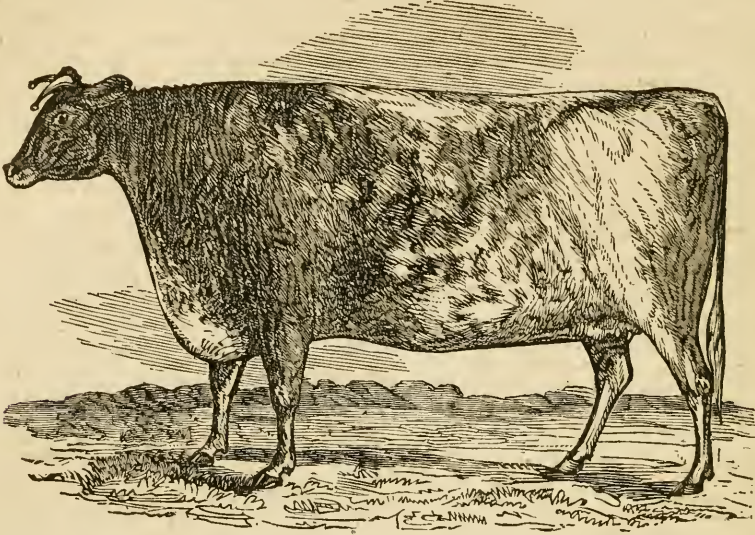
Wild oats—a crop that is usually sown between 18 and 32; the harvest generally sets in about ten years after, and is commonly found to consist of a broken constitution, two weak legs, a bad cough, and a trunk filled with small vials and medical preparations.

What our Country pays for Guano.

The *Genesee Farmer* says:—The quantity of guano which will be brought to the United States this year will be about 200,000 tons.

Two hundred thousand tons of guano purchased at fifty-five dollars a ton (the present price in New York) will take out of the country eleven million dollars for imported ma-

nure. For a comparatively new country, this is a startling fact. All the corn and corn-meal exported in the last fiscal year amounted to less than two and a half million dollars. When will our people see the folly of wasting so much of the elements of crops in almost every rural district, and then sending to the west coast of South America, for ten million dollars' worth of manure!"



DURHAM HEIFER.

The above is an engraving of a beautiful Short-Horn heifer, Esterville, formerly the property of E. P. Prentice, Mount Hope, near Albany. She contains in great perfection most of the points for which Durhams are so celebrated, and if the portrait is correct must have been a model animal, though her appearance does not indicate a very deep milker. This, in fact, cannot be claimed for the pure Durhams as a *breed*, though there are many exceptions, and it is chiefly on other accounts they have attained their high reputation.

Public opinion, when it is allowed full time, is seldom wrong in settling down on the comparative value of any breed of animals. The present high prices and great demand for Durhams, greater than ever before, and after so many years trial, prove conclusively that they have not been over estimated. While those who have incurred large outlays, in order to bring to this country the finest specimens from abroad, have generally been or will be well repaid, the whole country has also been benefitted to an incalculable amount. The supply of beef *from food consumed* by the improvement of the breed, in the great raising and fattening districts of the west, is at least one-third more than formerly, and probably in some cases doubled.

For size, quality, early maturity, disposition to fatten and docile tempers, the Durhams are yet unrivalled and will doubtless long maintain their ascendancy. Where care has been taken to select good milkers, and to breed them to bulls whose dams have also been remarkable for this property, it has been shown that it is possible also

to combine this with their other excellencies. The most remarkable butter cows on record have been the Short-Horns, but being bred originally with the view to beef, milk and butter were lost sight of by the Messrs. Collings and other of the earlier breeders. It has latterly attracted more attention, and many of the London dairies now contain beautiful specimens of the pure breed. If their milk is not so abundant it is generally richer in quality, and the ease and rapidity with which they can be fattened off makes them more profitable than any other.

Those who wish to purchase Durham stock should visit the State Exhibitions of Pennsylvania, New York or Ohio, where they will find opportunities of selection and comparison much better than on the farm of any one breeder. The best stock of the country may generally be found at these shows.

LICHTENTHALER'S CULTIVATOR.

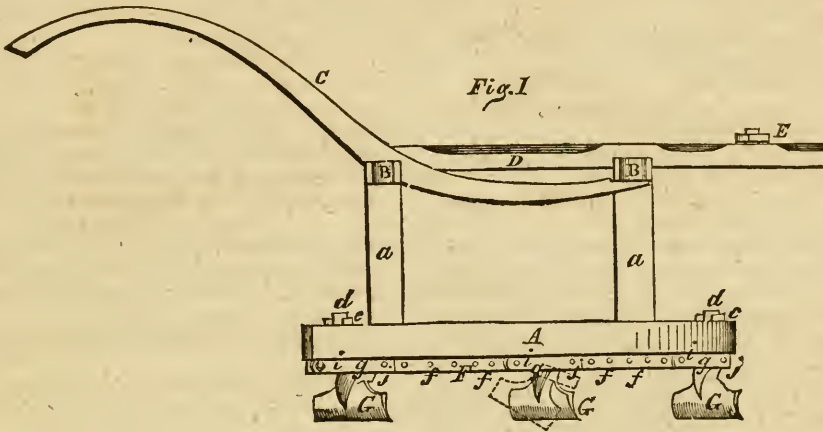
The annexed engraving is a side view of a Cultivator, for which a patent was granted to Griffith Lichtenthaler, of Limestoneville, Pa., on the 25th of July last. The nature of the improvement in this cultivator consists in the peculiar manner of attaching the shares to the beams, whereby they (the shares) may be readily adjusted in position, and also allowed to yield to any obstructions with which they may come in contact.

There are two beams, A, secured in an oblique position by cross ties, B B, which are attached to uprights, a, on the beams. The oblique position of the beams

gives the usual triangular or harrow-shape, the front ends of the beams being nearer together than the back ends. C are the handles or stilts attached to the cross ties, and D is a reach secured to the cross ties, and having a swivel tree, E, attached to its outer end. In the under surface of each beam, A, there is a longitudinal groove or recess, in which a metallic strip, F, is fitted, and secured therein by wedges or keys, c, which pass through projections, d. The projections pass upward from the strips, F, through the beams, A, the wedges or keys, being driven through eyes in the projections above the beams. Each strip is perforated with holes, f, as shown. The shares are represented by G. Each share has a socket formed by two lips, g g. The sockets are at the upper ends of the shares, and have holes through them. The shares, G, are secured to the beams, A, by placing the lips, g g, in the recesses, the strip, F, fitting between the lips, and inserting a metal pivot or pin, i, through the hindmost holes of the lips, and through a corresponding hole, f, in the strip. Wooden pins, j, are

passed through the front holes of the lips, and through corresponding holes, f, in the strips. The body of the shares are set nearly at right angles with the beams, A, and the dirt is thrown by the shares, as the machine is moved along, toward the center of the machine. In case of the shares meeting with any obstruction, such as a root, stump, stone, etc., the pins, i, being formed of wood, will break, and the shares, G, will turn backward, the metal pins, i, being the fulcrum or pivots (see dotted lines, the pin of one share being broken), and the share forced back. By this arrangement the machine is prevented from being broken, or any of its parts wrenched by sudden stoppages arising from obstructions. The shares by means of the sockets at their upper ends, and the perforated strips, F, may be readily adjusted to the beams. Shares of different forms may also be applied with the same facility, provided they have the sockets at their upper ends.

More information may be obtained by letter addressed to the patentee.



STATE FAIR---PREMIUMS AWARDED.

We have the pleasure of laying before our readers, in this number, the *official* reports of the various Committees of the recent Fair of the Pennsylvania State Agricultural Society.

CATTLE.

No. 1.—SHORT HORNS.

To the President of the Pennsylvania State Agricultural Society:—Of the Committee of Judges appointed on Short Horns, Messrs. Keyser and Bolmar did not attend. Their places were filled in the way pointed out in the instructions given, by substituting Wm. Stavely and Jonathan Knight, of Bucks county; and after carefully examining the stock entered for exhibition, the Committee award the following premiums:—Among so many good animals it was often difficult to discriminate, and owing to this difficulty, the Committee has made some compromises by recommending special premiums. That the conclusions of the Committee are entirely free from errors, or will in all respects meet the views and expectations of all persons, can hardly be hoped; having, however, acted according to the best of their judgment in good faith, the results are herewith respectfully reported.

Bulls Three Years Old and Upwards.

To Anthony Bolmar, of Chester county, Pa., for his bull "Harry," the first premium of \$20

To Wm. Fernistone, of Easton, Pa., for his bull "Cato," the second premium of \$15

To Geo. Brinton, of Chester county, for his bull "Mars," the third premium of \$8

Bulls between Two and Three Years Old.

To Dennis Kelly, of Philadelphia, for his bull "Lord Barington," the first premium of \$15

To Thomas Richeson, of Philadelphia, for his bull "Henry Clay," the second premium of \$8

To Davis Hoopes, of Chester county, for his bull ———, the third premium of \$4

Bulls between One and Two Years Old.

To Geo. A. Kreeble, of Montgomery county, for his bull "General Taylor," the first premium of \$10

To James Gowen, of Mount Airy, for his bull "Duke of York," the second premium of \$5

To George Martin, of Philadelphia, for his bull "Strawberry," the third premium of \$3

Bull Calves under Ten Months Old.

To Anthony Bolmar, of Chester county, for his "Charley," 5 months old, the first premium of \$5

To John R. Barton, of Philadelphia, for calf "Woodbine," 4 months old, the second premium of 3

To Richard Cartwright, of Philadelphia, for his bull calf [not named], 4 months old, the premium of 1

Cows Three Years Old and Upwards.

To James Gowen, of Mount Airy, for his cow "Isabella," the first premium of \$20

To Anthony Bolmar, of Chester county, for his cow "Flora," the second premium of 10

To Owen Sheridan, of Philadelphia, for his cow "Sally," the third premium of 6

Heifers between Two and Three Years Old.

To James Gowen, of Mount Airy, for his heifer "Young Lady," the first premium of \$15

To Dr. John R. Barton, of Philadelphia, for his heifer "May Flower," the second premium of 10

To Thomas P. Remington, of Philadelphia, for his heifer "Beauty Spot," the third premium of 5

Heifers between One and Two Years Old.

To David Meconkey, of Chester county, for his heifer "Rose," the first premium of \$10

To John Clark, of Philadelphia, for his heifer "Kate," the second premium of 5

To James Gowen, of Mount Airy, for his heifer "Blossom," the third premium of 2

Heifer Calves under Ten Months Old.

To Thomas P. Remington, of Philadelphia, for his "Donna Maria 4th," the first premium of \$5

To Anthony Bolmar, of Chester county, for his heifer, five months old, the second premium of 3

To Thomas P. Remington, of Philadelphia, for his "Miss Barrington," the third premium of 1

The display of Durham cattle was large and very good. Among the largest contributors were Messrs. James Gowen, of Mount Airy, Anthony Bolmar, of West Chester, and Aaron Clement, Dennis Kelly, and Thomas P. Remington, of Philadelphia; the herds of the first named two gentlemen were exceedingly fine. There were also many other excellent specimens on the ground, and in view of the number and quality, the Committee feel as if full justice could not be done to the enterprise and liberality of gentlemen who have given their attention and means to the improvement of this breed of stock, without the bestowal of some special premiums. No such power being vested in this Committee, it respectfully makes the suggestion to the Executive Committee of the Society, and recommends the following special premiums:

To John A. Sheets, of Berks county, for his bull "Jano," over three years old, \$8

To Adrian Cornell, of Bucks county, for his bull "Pontiac," over three years old, 8

To Thomas P. Remington, of Philadelphia, for his bull "Lord Barrington," between two and three years old, 4

To William Divine, of Philadelphia, for his bull "General Scott," between two and three years old, 4

To Lewis P. Hoopes, of Chester county, for his bull, between one and two years old, 3

To Thomas P. Remington, of Philadelphia, for his bull calf, ten months old, 2

To Joseph Palmer, of Philadelphia, for his heifer "Lucy," between two and three years, 5

To Aaron Clement, of Philadelphia, for his heifer "Ellen," between two and three years old, 5

To same for his two heifers, "Flora" and "Beauty," each \$2, 4

To same for heifer "Duchess," 2

Mr. Remington's heifers, "Fanny," 4½ months old, and "Flora," 5 months old, are worthy of especial commenda-

tion.—JOHN EVANS, WM. STAVELY, JONATHAN KNIGHT, Committee.

No. 2—DEVONS.

To the President of the Pennsylvania State Agricultural Society:—The Committee appointed on Devon Cattle, No. 2, respectfully present the following awards:

Bulls of Three Years and Upwards.

To Morris Longstreth, of White Marsh, Montgomery county, for his bull "Buck," 3 years and 6 months old, the first premium of \$20

To C. P. Holecomb, of Newcastle, Del., for his bull —, 4 years old, the second premium of 15

To George A. Krieble, of Montgomery county, for his bull "Echo," 7 years old, the third premium of 8

Bulls between Two and Three Years Old.

To Thomas Hancock, of Burlington, N. J., for his bull "Winchester," 2 years and 6 months old, the first premium of 15

To Aaron Clement, of Philadelphia, for his bull, 2 years old, the second premium of 8

To Christopher Fallon, of Upper Darby, Delaware county, for his bull "Wm. Bigler," between 2 and 3 years old, the third premium of 4

Bulls between One and Two Years Old.

To Aaron Clement, of Philadelphia, for his bull, 1 year and 4 months old, the first premium of \$10

To Richard Pim, of Thorndale, Chester county, for his bull, 1 year and 1 month old, the second premium of 5

To C. P. Holecomb, of New Castle, Delaware, for his bull "Granby," 1 year old, the third premium of 3

Bull Calves under Ten Months.

To Charles H. Muierhied, of Philadelphia, for his bull, 4 months and 2 weeks old, the first premium of \$5

To C. P. Holecomb, of New Castle, Delaware, for his bull, 6 months old, the second premium of 3

To same, for his bull, 5 months and 2 weeks old, the third premium of 2

Cows of Three Years and Upwards.

To C. P. Holecomb, of New Castle, Delaware, for his cow "Betty," 6 years old, the first premium of \$20

To same, for his cow "Cherry," 6 years old, the second premium of 10

To Wm. H. Stewart, of —, for his cow, 5 years old, the third premium of 6

Heifers between Two and Three Years Old.

For first premium—No merit.

For second do do

To Morris Longstreth, of White Marsh, Montgomery county, for his heifer, 2 years and 6 months old, the third premium of \$5

Heifers between One and Two Years Old.

To John Lippincott, of Bucks county, for his heifer, 1 year and 8 months old, the first premium of \$10

To Richard Pim, of Chester county, for his heifer, 1 year and 5 months old, the second premium of 5

To Morris Longstreth, of White Marsh, Montgomery county, for his heifer, 1 year and 6 months old, the third premium of 2

Heifer Calves under Ten Months.

To C. P. Holecomb, of New Castle, Del., for his heifer, 5 months and 2 weeks old, the first premium of \$5

To same, for his heifer 8 months old, the second premium of 3

To Thomas Hancock, of Burlington, N. J., for his heifer calf "Violet," 8 months and 2 weeks old, the third premium of 1

We beg to express our great satisfaction with the greater

part of the animals that came before our observation, and particularly commend Mr. Morris Longstreth's bull "Bery."

Although this is only the fourth exhibition of the Society, we cannot let the opportunity pass without assuring the President, and all who take interest in the Society, that we consider exhibitors have made unexampled improvement in the cattle sent for competition.

We further beg leave to offer the following propositions for the consideration of the present and any future President and Committee of the Pennsylvania State Agricultural Society, viz:

1. That each separate and distinct breed of animals shall, in future, be so placed in the stalls as to follow each other.

2. That each animal, intended for breeding from, shall have a name, and the exact age stated in years, months, weeks, and, in all very young ones, even days.

3. That each exhibitor shall give his exact address.

Should these suggestions hereafter become rules, we wish and hope that those who intend to send cattle for competition at future Fairs will be particular in adhering strictly to them; for, by so doing, they will greatly facilitate the committees in their decisions, and benefit themselves. —ROBERT T. POTTS, SAMUEL GILLELAND, PASCHALL WORTH, JOHN WM. GIBBONS, Committee.

No. 3.—HEREFORDS.

Nos. 4, 5 and 6.—AYRSHIRE, HOLSTEIN AND ABERDEEN.

To the President of the Pennsylvania State Agricultural Society:—The Committee on Ayrshire, Holstein and Alderney Cattle make the following report:

Ayrshire.

To A. R. McIlvain, for the best bull between three and four years old,	\$20
To A. L. Pennock, for the best bull between one and two years old,	10
To Aaron Clement, of Philadelphia, for the best cow three years old,	20
To C. W. Harrison, for the best heifer between two and three years,	15

Holstein.

To John Worth, for the best cow three years old,	\$20
To same, for the best heifer between one and two years old,	10
To same for the best heifer calf ten months old,	5

Alderney.

To Jonathan Knight, of Bucks county, for the best bull, 3 years old, the first premium of	\$20
To Marshall Strode, of Chester county, for the second best bull, the second premium of	15
To Thomas P. Remington, of Philadelphia, for the third best bull, the third premium of	8
To Wm. Supplee, of Philadelphia, for the best bull between one and two years old,	10
To Aaron Clement, for the second best bull between one and two years old,	5
To Craig Biddle, of Philadelphia, for the third best bull between one and two years old,	4
To Thomas P. Remington, best bull calf, ten months old,	5

Alderney Cows.

To Peter Rose, of Philadelphia, for the best Alderney cow, between 3 and 4 years old,	\$20
To Thomas P. Remington, for the second best,	15
To Wm. Supplee, for the third best,	6
To Thomas P. Remington, for the best cow, between 2 and 3 years old,	15
To Lewis R. Hillard, of Montgomery county, for the second best, between 2 and 3 years old,	5

To Wm. Supplee, for the best Alderney heifer, between 1 and 2 years old,	10
To L. H. Twaddell, of West Philadelphia, for the second best, between 1 and 2 years old,	5
The Committee consider the foregoing Cattle in fine condition, and highly creditable to the Exhibition.—WM. KENNEDY, JOHN J. ROWLAND, Committee.	

No. 7.—NATIVES AND GRADES.

To the President of the Pennsylvania State Agricultural Society:—Your Committee (No. 7) on Natives and Grades respectfully report that they award the following premiums:

To James Gowen, of Mount Airy, for the best bull between 1 and 2 years old,	\$6
To Isaac Newton, for the second best,	4
To Reuben C. Lewis, for the best bull under 10 months,	3
A special premium is recommended to Aaron Clement for his grade bull, 11 months old,	5
To Robert Purvis, for best cow over 3 years old,	12
To John J. Rowlin, for 2d best do do	10
To Jesse M. Williams, for 3d best do do	8
To Christopher Fallon, for best heifer between 2 and 3 years old,	10
To C. W. Harrison, for the 2d best do do,	8
To Isaac Newton, for the 3d best do do,	4
To Richard Cartwright, for the best heifer between 1 and 2 years old,	6
To Christopher Fallon, for the 2d best do do,	4
To Abraham L. Pennock, for 3d best do do,	2
To Isaac Newton, for best heifer calf under ten months old,	3
To Richard Cartwright, for second best do. do.	1

We also recommend special premiums to be given as follows:

To Peter Rose, for native heifer,	\$5
To Christopher Fallon, for two grade cows,	10
To A. C. Jones, for a native cow,	5
To James Mars, for 5 grade cows,	20
To Richard Cartwright, for a native cow,	10
To Bernard Devlin, for two heifers,	5
To John Turner, for 1 grade cow,	6
To W. P. Passmore, for 1 grade cow,	6
To same, 1 pair twin calves,	4
To Francis Little, for 2 grade cows,	10
To Thomas D. Taylor, for 2 native cows,	10
To George Martin, for 2 grade cows,	10
To P. Lambert, for 1 grade cow,	6
To Nathan Ellmaker, for 2 grade cows,	10

SAMUEL ROBERTS, DANIEL C. GETTY, JOSHUA PAXSON, Committee.

No. 8.—WORKING OXEN.

To the President of the Pennsylvania State Agricultural Society:—The Committee on Working Oxen respectfully present the following report as their awards:

For the premium offered by the Society for the twenty yoke of working oxen contended for by the Society of Chester, they award the premium of \$50, to be given to the Agricultural Society of that county, and also recommend a silver medal to be offered to the same Society.

For the best three yoke they assign the premium of \$20 to the three yoke owned by Paschall Worth, Thomas S. Woodward and Lewis P. Hoopes, of the county of Chester.

For the second best three yoke they award the second premium of \$15 to Geo. Blight, C. H. Muirhead and Thos. Dunlop.

The Committee desire to express their admiration of a pair of Devon Oxen, owned by Mr. Geo. Blight, that in ex-

ery respect showed the best breaking and the greatest docility.

For the best single yoke they award the first premium of \$12 to Richard Pim, of Chester county.

A second premium of \$10 to Joseph Powell, of the county of Delaware.

A third premium of \$8 to Thomas B. Taylor, of Chester.

There were two or three other pairs of oxen entered for exhibition, but they were not brought before the committee, nor tested as to their working qualities. The Committee cannot refrain from expressing their warmest admiration of the animals exhibited, possessing, as they did, all properties essential for the uses of the farmer.

The Committee suggest to the Executive Committee the propriety of awarding a discretionary premium of \$8 to Geo. Newton for a well bred and well broken pair of yearlings. Also, a similar mark of encouragement to Chauncey P. Holcomb, of the state of Delaware, for a beautiful pair of two year old Devon Oxen.

The Committee, in common with every farmer on the ground, cannot but speak warmly of the high interest displayed by the farmers of Chester county in this exhibition, and to augur from the feelings displayed on this occasion, the happiest results to the agriculture of our State and country.—WM. A. NEWBOLD, NATH'L ELLMAKER, JR., RICHARD PETERS, CHALKLEY HARVEY, A. L. ELWYN, Committee.

No. 9.—FAT CATTLE.

To the President of the Pennsylvania State Agricultural Society:—The Committee on fat steers, respectfully report that they award the first premium of \$15.00 to Joseph Palmer, of Kingsessing, for his fine 4 year old short horn steer. Although there was no competition, the style, form, weight and quality of this animal was such as to entitle him to the above premium.—AARON CLEMENT, CHAS. KELLY, WM. J. LEIPER, WM. EYRE, Jr, Committee.

No. 10.—MILCH COWS.

To the President of the Pennsylvania State Agricultural Society:—The Committee No. 10, on Milch Cows, beg leave to report that they have performed the duty assigned them, and find that Peter Rose, of the 24th Ward, of the city of Philadelphia, is entitled to a premium of \$20.00, for the best grade cow—"Milk Maid," 7 years old; said cow having yielded or produced 228 quarts of milk in ten days, viz: from the 12th to the 22d of Sept., 1854, inclusive—that the weight thereof, was 547 lbs, and that it took 18 quarts of said milk to make one pound of butter; said cow calved on the 22d of August last. These facts are attested by depositions of Peter Rose and Hannah Rose, his wife.—Geo. WALKER, STEWART TURTILL, JACOB PAINTER, Committee.

No. 11.—FOREIGN IMPORTED CATTLE.

To the President of the Pennsylvania State Agricultural Society:—The Committee of Judges on Foreign Imported CATTLE, No. 11; two years old and upwards, Report that they award for the best short horn bull, imported within twelve months, the premium of \$25, and Diploma to Chas. Kelly, for his bull "Liberator." There was no other short horn bull, of recent importation, of two years old, to compete with this animal; the committee, however, deemed him worthy of the premium.

To Christopher Fallon is awarded the premium of \$20 and Diploma, for his very fine cow "Rose," she being considered the best short-horn cow, on the ground, imported within twelve months. Mr. Fallon exhibited another fine short-horn cow, of recent importation, called "Nelly." Also, a fine young roan bull, under age, of much promise.

The committee cannot but commend Mr. Fallon, for his public spirit, and judicious selection of the above imported cattle.

Thomas P. Remington exhibited "Rowena" a short horned cow, imported within twelve months; also, a young short horn white bull, under age and in very low condition. It is hoped that under good care, these animals will reward their enterprising owner for importing them, and prove serviceable in the improvement of the breed of cattle in Pennsylvania. There were no Herefords, Ayrshires or Devons of recent importation exhibited, with the exception of a very fine young Devon bull of 11 months old, called "Devonshire" the property of Chauncey P. Holcomb, of Delaware.—JAMES GOWEN, R. W. MUSGRAVE, JOHN B. ADAMS, Committee.

HORSES AND MULES,

No. 12.—STALLIONS AND MARES FOR ALL WORK.

To Hon. Frederick Watts, President of the Pennsylvania Agricultural Society:—The Committee (No. 12) appointed on Stallions and Mares, respectfully report that they proceeded to examine the different animals exhibited in this class and division in the order of their arrangement in the printed regulations of the Society, and have awarded prizes as follows, viz;

Stallions of four years old and upwards for all work.

To George Bellows, of Lancaster, N. H., for his stallion "Morgan Black Hawk," 10 years old, the first premium of \$30

To William H. Doble, of Penna., for his four year old stallion "Bashaw," the second premium of 15

To Allen Fenimore, of New Jersey, for his stallion "Tralfalgar," the third premium of 5

A complimentary diploma is recommended for Mr. George Bellows, of New Hampshire, for a very fine pair of young Black Hawk stallions, exhibited together.

Blood Mares of four years old and upwards, with foals at their feet, for all work.

To A. L. Pennoek, Jr., of Holmesburg, Pa., for his 7 year old mare "Jane Eyre" first premium of \$30

To same, for his 6 year old mare "Dolly Sager," second premium of 15

To Francis King, of Philadelphia, for his 8 year old bay mare, the third premium of 5

Stallions of 4 years old and upwards, for heavy draught.

To Saml. Holman of Chester county, Pa., for his six year old "Duke of Normandy," first premium of \$30

To A. J. Stewart, of Huntingdon county, for his six year old "Juniata Fire King," second premium, 15

To Thos. S. Davis, of Philadelphia, for his nine year old "Lebanon Farmer," third premium of 5

A number of very fine animals of this class were exhibited, and the Committee regretted they had not more premiums to award.

Brood Mares of 4 years old and upwards, with foals at their feet, for heavy draught.

To Joseph Lewis, of Delaware county, Pa., for his seven year old "Juliet," first premium of \$30

To John Scott, of Hestonville, Pa., for his twenty-five year old "Sally," second premium of 15

But two mares of this class were exhibited.

Stallions of four years old and upwards, for quick draught.

To J. M. Hamill, of Philadelphia, for his four year old stallion "Morgan Jackson," first premium of \$30

To Hosea Ball, of Philadelphia, for his seven year old stallion "Lone Star," second premium of 15

To Jehn Clark, of Philadelphia, for his eight year old stallion "Tom Morgan," 5

Mares of 4 years old, and upwards, for quick draught.

To Hosea Ball, of Philadelphia, for his four year old mare "Fanny," first premium of \$30
Only one of this class exhibited.

Stallions of 4 years and upwards, for draught.

To M. A. Kellogg, of Philadelphia, for his seven year old "Abdallah," first premium of \$30

To Genl. Wm. Irick, of Burlington, N. J., for his nine year old "Toronto," second premium of 15

To J. B. Schenck, of Bucks county, for his seven year old "Mackinaw," third premium of 5

Mares of 4 years old and upwards for draught.

None exhibited.

Stallions three years old and under four years

To John Kline & Co., of Montgomery county, for their three year old "Perfection," first premium of \$30

To Samuel R. Sager, of Holmesburg, Pa., for his three year old "Grey Sherman," second premium of 15

To same, for his three year old "Black Sherman," the third premium of 5

Mares three years old and under four years.

To Hosea Ball, of Philadelphia, for his three year old "Fanny," first premium of \$30

To Thomas Lieper, of Delaware county, for his three year old "Fanny," second premium of 15

To George G. Lieper, Jr., of Delaware county, for his three year old "Di Vernon," third premium of 5

Stallions two years old and under three years.

To A. Reybold, of Delaware City, Del., for his two year old "Morgan Black Hawk," first premium of \$30

To A. L. Pennock, Jr., of Holmesburg, for his two year old "Bay Sherman," second premium of 15

To Hosea Ball, of Philadelphia, for his two year old "Nebraska," third premium of 5

The horses exhibited of this class were so numerous, and many of them of so fine quality, that the Judges earnestly recommend for extra premiums, or complimentary diplomas, the following, viz:—

To R. Plumpstead, of Upper Darby, Pa., for his two year old "Jackson Junior," diploma

To Abraham Brower, for his two year old "Gen. Wayne," diploma

To Wm. D. Clark, of Delaware City, Del., for his two year old "Rob Roy," diploma

To Abraham Brower, for his two year old "Eclipse," diploma

Mares of two years old and under three.

To Joseph Lewis, of Delaware county, for his two year "Fanny," first premium of \$30

To E. Hindle & Sons, of West Philadelphia, for their two year old "Betty," second premium of 15

Stallion colts of one year old.

To Hosea Ball, of Philadelphia, for his one year old "Lone Star" the first premium of \$15

To Wm. J. Quein, of Chester county, for his one year old "Mingo 4th," second premium of 10

To Francis King, of Philadelphia, for his one year old "General Duroc," third premium, of 5

Mares colts of one year old.

To Hosea Ball, of Philadelphia, for his one year old colt "Fancy," first premium \$15

To Samuel Holman, of Chester county, for his one year old "Brown Filly," second premium of 10

To same, for his "Iron Grey Filly" the third premium of 5

At the request of the President, the committee examined two stallions described as thorough bred, of domestic origin, and award,

To Dr. Miller of Philadelphia, for his 11 year old stallion Mingo, first premium of \$30

To Thomas Lieper, of Delaware county, for his 5 year old stallion "Callender Irvine," second premium of \$20
—G. H. CROSSMAN, JAMES ANDREWS, JOHN G. PALMER, Committee.

NO. 121.—MATCHED HORSES, GELDINGS, SINGLE MARES, JACKS AND MULES.

To the President of the Pennsylvania State Agricultural Society:—The undersigned, appointed to examine Matched Horses, Geldings, Single Mares, Jacks and Mules, respectfully report that they have had great pleasure in discharging their several duties.

The exhibition of horses in the class designated for your committee's report has been large and attractive. Never, perhaps, has there been such a splendid collection of horses in Pennsylvania. Your committee expected the appearance of many specimens of the finest blood and action, but they have been agreeably disappointed by the variety and general excellence of the stock exhibited.

Before awarding the premiums, your committee ask permission to make a single remark. It is a fact that public attention has been directed for years to the improvement of the breed of cattle, hogs, sheep, and even chickens, while the horse, the noblest animal in the service of man, has been comparatively neglected. True, there are many superior horses in the State, and many have been presented for exhibition, but they are exceptions to the general rule. There is ample room for improvement in the introduction of thorough-bred horses—the moderate use of them, the selection of the finest mares for breeding, instead of those broken down by age and labor. Such a course might be more expensive, but the foals of such animals would command a full remuneration, and every one be benefitted by the style, action, power and endurance of thorough bred horses.

Your committee award the first premium of \$30, for best matched carriage horses, to Watson Newbold, of New Jersey; the second of \$15, to John Emmett, of Philadelphia; the third of \$5, to Hosea Ball, of Philadelphia; and the first premium of \$20, for matched mares, to Wm. R. Brown, of Bucks county.

The matched horses of Mr. Newbold are well mated, and remarkable for superior style and gentleness; those of Mr. Emmett for action and endurance; and those of Mr. Ball as good roadsters and elegantly trained. The mares of Mr. Brown are distinguished for symmetry and bottom, also for being admirably broken and fitted for service. A discretionary premium of \$5 is recommended for the Highland ponies exhibited by Zephania Campbell, of Philadelphia. For matched farm horses the first premium, of \$30, is awarded to Geo. W. Hocker, of Montgomery county; the second, of \$15, to Hosea Ball, of Philadelphia; the third, of \$5, to John Gillfillan, of Philadelphia; and a discretionary premium of \$10 to Henry S. Kupp, of Berks county, for the best single draught gelding. The horses of Mr. Hocker exhibit fine size and great muscular development; those of Mr. Ball for strength and kindness, and those of Mr. Gillfillan are noted for general excellence as good farm horses. The bay horse of Henry S. Kupp indicates great strength, combined with light footedness; he is a superior specimen of his kind.

The first premium of \$15, for farm mares, is awarded to Eli Logan, of Chester county.

The first premium of \$10, for best gelding for saddle, is awarded to F. A. Shower, of Philadelphia; the second, of \$7, to Thomas Craig & Son, of Philadelphia.

The Committee awarded to Charles T. Mathews, of the city of Philadelphia, a diploma for the best "trained" saddle horse of the "menage," of superior action, lightness,

spirit, and good disposition; trained according to the French system.

The first named is well gaited, gay, sure-footed, easy and graceful in motion; the second and third are fine horses, spirited, well broken, and beautiful in action.

The first premium of \$10, for the best gelding for harness, is awarded to Michael Trainor, of Philadelphia; the second, of \$7, to James G. Smith, of Philadelphia; the third, of \$5, to Howard Tilden, of Philadelphia.

The first two named are remarkable for speed, blood and splendid action; the third is gay, docile, and a beautiful traveller.

A discretionary premium of \$10 each is recommended to be given to the following gentlemen:—Michael Trainor, O. G. Howard, Samuel K. Bye, Wm. P. Brock, Wm. F. Murray, Jacob Peters and Cyrus Haldeman, for their several horses. There was a number of splendid horses exhibited, besides those already mentioned, but they were not entered for competition.

In advising the discretionary premiums, we do not wish to detract from the horses named as entitled to the regular premiums—these are selected from the entire display.

The first premium of \$10, for the best mare for harness, is awarded to M. A. Kellogg, of Philadelphia; the second of \$7, to Morris Spackman, of West Philadelphia, and the third, of \$5, to J. W. Nicholson, of New Jersey. These are superior animals, of fine blood, style and action.

The first premium of \$20, for the best Jack, is awarded to Wm. C. Henderson, of Lancaster county; the second, of \$10, to Aaron Clement, of Philadelphia; and the first premium of \$20 for the best Jennet, to Wm. Cox, of Philadelphia.

The first premium of \$20, for best pair of Mules, is awarded to George W. Hocker, of Montgomery county; the second, of \$10, to same, and the third, of \$5, to Olom Lewis, Jr., of Delaware county.

The first premium of \$25, for the best team of Mules, is awarded to F. A. Showers, of Philadelphia; the second, of \$15 to Eli Logan, of Chester county, and a discretionary premium of \$10 to Morris Spackman, of West Philadelphia, for a very superior single mule.

Your Committee, in conclusion, record their testimony to the very creditable stock exhibited.—JOHN H. BERRYHILL, A. E. KAPP, Committee.

No. 13.—FOREIGN IMPORTED HORSES.

To Hon. F. Watts, President of the Pennsylvania State Agricultural Society:—The Committee on Imported Horses award to Richard B. Jones, of Philadelphia, a diploma and premium of \$20, for his imported Stallion "Caliph." As Mr. Jones did not exhibit an authenticated pedigree of "Caliph," according to the regulations, he could not expect the premium of a "thorough bred"—but the Committee have no doubt, from the appearance of the horse and the statements made, that he is of the Arab stock.

Two Spanish Stallions, imported from Cuba, were exhibited by John Amey, of Philadelphia, to which we award a diploma and premium of \$5.—WM. A. IRVINE, W. M. BIDDLE, Committee.

No. 14.—SHEEP AND WOOL.

To the President of the Pennsylvania State Agricultural Society:—The Committee, No. 14, on Sheep and Wool, beg leave to report that they have attended to the various duties assigned them, and have awarded as follows:

To John Worth, of Chester county, for the best Southdown Buck, a premium of \$10
To same gentleman, for second best, premium of 6

To Joseph Cope, of Chester county, for his Southdown Ewes, first premium of \$10
To same gentleman, for second best Southdown Ewes, second premium of 6
To same gentleman, for best Southdown Lambs, a premium of 10
To same gentleman, for second best Southdown Lambs, a premium of 6
To Lewis P. Hoopes, of Chester county, for four Southdown Sheep, a complimentary premium of 8
To Aaron Clement, of Philadelphia, for eight Southdown Ewes, a complimentary premium of 8
To George Drayton, of Delaware county, farmer to Christopher Fallon, for the best imported Leicester Buck, a premium of 10
To same gentleman, for the best imported Leicester Ewes, a premium of 10
To Bryan Jackson, of the State of Delaware, for the best Cotswold Ewes, a premium of 10
To Aaron Clement, of Philadelphia, for the second best Cotswold Ewes, a premium of 6
To Bryan Jackson, of the State of Delaware, for the best Cotswold Lambs, a premium of 10
To same gentleman, for best Cotswold Buck, a premium of 10
To Nathan Garrett, of Chester county, for second best Cotswold Buck, a premium of 6
To Morthy & Flinn, of the State of Delaware, for the best mixed blood Ewes, a premium of 10
To George Drayton, of Delaware county, farmer to Christopher Fallon, for second best mixed blood Ewes, a premium of 6
To same gentleman, for a lot of mixed breed, a premium of 10
To Geo. D. Parris, of Burlington county, N. J., for a Leicester Buck, a special premium of 6
To Isaac Newton, of Delaware county, for his broad tailed or Tunis Buck, and mixed blood Lambs, a special premium of 10
To Aaron Clement, of Philadelphia, for Spanish Merino Buck, a premium of 10
To same gentleman, for the second best Spanish Merino Buck, a premium of 6
To same gentleman, for the best Spanish Merino Ewes, a premium of 10
To same gentleman, for the second best Spanish Merino Ewes, 6
To Morthy & Flinn, of the State of Del., for the lots of the best fat Sheep, 10 in number, a premium of 10
To John Worth, of Chester county, for second best lot of fat Sheep, a premium of 8
To A. T. Newbold, of Burlington county, N. J., for four sheep, 8 months old, imported from Tartary, in China, a special premium of 20
N. B.—These sheep breed twice a year, and have from four to six lambs at a birth; the mutton remarkably excellent. They were imported directly from Shanghai by Pratt & Sons, of Philadelphia.
To Dr. J. Bolton Davis, of Columbia, South Carolina, for one Cashmere Buck Goat, a yearling, and for two kids of the same, (one mixed with Nankin goat,) three months old, a silver medal
N. B.—These animals attracted general attention, and your committee believe they can be raised in Pennsylvania.
To Morthy & Flinn, of the State of Delaware, for the best fat sheep under two years old, a premium of 6
To George Drayton, farmer to Christopher Fallon, of

Delaware county, for the second best fat sheep, a premium of	\$5
To Morthy & Flinn, of the State of Delaware, for the third best fat sheep,	3
To Jonathan Knight, of Bucks county, for a fine mixed Buck, a premium of	10
To Peter A. Browne, Esq., of Philadelphia, for his extensive and magnificent collection of "Pile," (Hair and Wool) from all parts of the habitable world,	a silver medal

N. B.—This collection was an object of universal observation and admiration.

In conclusion, your committee report that they have had a very arduous duty to perform, and are sensible that meritorious animals have been necessarily ruled out in consequence of the wording of the list of premiums. In some instances your committee have endeavored to surmount the difficulty by awarding special premiums.

Your committee respectfully recommend that the terms "long woolled," "middle woolled," and "short woolled," be no longer used.—ISAAC NEWTON, BENJ. HICKMAN, BRYAN JACKSON, Committee.

No. 15.—SWINE.

To Hon. F. Watts, President of the Pennsylvania State Agricultural Society:—Committee No. 15, on Swine, report as follows:

Large Breed.

To Thomas Yodman, for the best Boar over two years old, first premium of	\$10
To Wm. Dripps, of Chester county, for the best Boar over one year old, first premium of	10
To J. G. Updegrove, of Dauphin county, for the next best Boar, second premium of	5
To Marshall Strode, of Chester county, for the best Boar over 6 months old, first premium of	10
To Andrew Godfrey, of Philadelphia, for the best Sow over two years old, first premium of	10
To same, for the next best over one year old, second premium of	5
To Lewis P. Hoopes, of Chester county, for the best Sow over six months old, first premium of	10
To Francis Strode, of Chester county, for five Pigs under six months old, first premium of	10
To Chalkley Harvey, of Delaware county, for five Pigs under six months old, second premium of	5

Berkshire Stock.

To James Gowen, of Mount Airy, for the best Boar (white) over two years old, first premium of	\$10
To same gentleman, for the best Boar (white) over one year old, first premium of	10
To same gentleman, for the best Boar (white and black) over six months old, first premium of	10
To same gentleman, for the next best Boar (white) over six months old, second premium of	5
To Robert Purvis, of Philadelphia, for the best Sow (black) over two years old, first premium of	10
To James Gowen, of Mount Airy, for the next best Sow (black) over two years old, second premium of	5
To same gentleman, for best Sow (white) over one year old, first premium of	10
To same gentleman, for next best Sow (white) over one year old, second premium of	5
To same gentleman, for best Sow (white and black) over six months old, first premium of	10
To Adrian Cornell, of Bucks county, for five Pigs under six months old (black), first premium of	10
To Robert Purvis, of Philadelphia, for six Pigs under six	

months old (black), second premium of	5
<i>Small Breed Suffolk Stock.</i>	

To Adrian Cornell, of Bucks county, for the best Boar over two years old, first premium of	\$10
To same gentleman, for best Boar over six months, first premium of	10
To same gentleman, for best sow over two years, first premium of	10
To same gentleman, for best Sow over one year old, first premium of	10
To same gentleman, for five Pigs under six months old, first premium of	10

Grade Stock.

To H. L. Strackbine, of West Philadelphia, for best Sow, 4 years old, of the Dutchess county breed, the first premium of	\$10
To John H. Miller, of Delaware county, for the best Sow, six months old, first premium of	10
To Cyrus Miller, of Lancaster county, for next best Sow, six months old, second premium of	5
To same gentleman, for the best Boar, six months old, first premium of	10
To John H. Miller, of Delaware county, for next best Boar, over six months old, second premium of	5

Fat Stock.

To Thomas Yeaman, of Philadelphia, for best fat Hog, one year old, first premium of	\$5
To James Gowen, of Mount Airy, for next best fat Hog, one year old, second premium of	5

The Committee would make honorable mention of a very fine Boar, of the Chester county stock, exhibited by Benjamin Hickman, of Chester county, 4½ months old; also, a fine lot of Shoats of different ages, thirty-one in number, by the same gentleman. We think him entitled to a premium of \$10 for his very excellent display of stock.—MARSHALL PAINTER, MARSHALL B. HICKMAN, RICHARD PARKER, Committee.

No. 16.—POULTRY.

To Hon. F. Watts, President of the Pennsylvania State Agricultural Society:—The Committee, No. 17, on Poultry beg leave to make the following report. After a careful examination of the handsome display presented on the ground of the various kinds, the premiums are awarded as follows:

Shanghai.

3—1 cock and 2 hens—to John Smith, of Harrisburg, the premium of	\$3
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3—1 cock and 2 hens—to Robert Purvis, of Philadelphia,	3
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Dorkings.

To James Killen, of Germantown, for best lot of Dorkings, not less than three,	\$3
To George F. Curwen, of Delaware county, for second best,	2

Black Spanish.

To James Killen, of Germantown, for best pair of Black Spanish,	\$3
To Wm. Leonard, of Philadelphia, for second best,	2

Bucks County Fowls.

To George Vanartedalen, of Bucks county, for best cage of Bucks county fowls,	\$3
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Brahma Pootras.

To Dr. Wm. James Crabb, of Philadelphia, for three Brahma Pootras—1 cock and 2 hens,	\$3
To Jonathan Dorwart, of Lancaster, for three Brahma Pootras—1 cock and 2 hens,	3

Cochin China.

To Dr. Wm. James Crabb, of Philadelphia, for 3 Cochin Chinas—1 cock and 2 hens,	\$3
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		DISCRETIONARY PREMIUMS.	
To Jonathan Dorwart, of Lancaster, for 3 Cochin Chinas		To Wm. A. Clark, of Philadelphia, for Silver Hamburg, \$3	
—1 cock and 2 hens,	3	To same gentleman for Golden Hamburgs	2
To Aaron Clement, of Philadelphia, for 3 Cochin Chinas—		To Jas. Gillespie, of Philada., for fine collection of Cochin	
1 cock and 2 hens,	3	China fowls.	5
<i>Chittagongs.</i>		To same gentleman for handsome display of fowls	5
To George H. Yard, of Trenton, N. J., for one cock and		To Jonathan Dorwart, of Lancaster, Pa., for Harvey fowls	3
two hens,	\$3	To do do for geese	2
<i>Bantams.</i>		To do do display of ducks	3
To Wm. M. Clark, of Philadelphia, 1 cock and 2 hens,	\$3	To M. H. Cornell, of Bucks Co., for Merino fowls,	3
To same, 1 cock and 2 hens, black,	2	To James Killen, of Germantown, for Silky fowls,	4
<i>Game Fowls.</i>		To same gentleman for display of poultry,	8
To Jonathan Dorwart, of Lancaster, for best three, 1 cock		To Hammond Holden, for Golden Pheasants,	3
and 2 hens, first premium,	\$3	To same gentleman for Silver Pheasants,	2
To Wm. Leonard, of Philadelphia, 2d best,	2	To same gentleman for Bolton Grays,	2
<i>Native or Dunghill Fowls.</i>		To Peter Rose, of Philadelphia, for Bremen geese,	3
To George Vanartsdalen, of Bucks county, for 1 cock and		To G. & C. K. Engle, of Philadelphia, for Shanghae fowls,	3
2 hens,	\$3	To same gentleman for Cochin China fowls, bred from im-	
To Jonathan Dorwart, of Lancaster, do. do.,	2	ported stock,	8
<i>Poland Fowls.</i>		To A. Smith, of——, for English Bantam,	3
To Jonathan Dorwart, of Lancaster, 1 cock and 2 hens,	\$3	To Aaron Clement, of Philadelphia for fine collection,	8
To Wm. Leonard, of Philadelphia, for 1 cock and 2 hens,	2	To Wm. Leonard, of Philadelphia, for display of Bantams,	3
<i>For the two best lots of Poultry exhibited.</i>		To same gentleman for display of frizzled,	3
To John W. Smith, of Harrisburg,	\$10	To same gentleman for display of Golden Pheasants,	2
To Robert Purvis, of Philadelphia,	10	To same for fine display,	5
<i>Largest collection of Fowls exhibited.</i>		To G. H. Yard, of Trenton, N. J. for eight fowls weighing	
To S. C. Radford, of West Philadelphia, 500 Fowls,	\$10	ten pounds each,	5
To Jonathan Dorwart, of Lancaster, for 2d largest,	8	To same gentleman for very fine display, of Chittagongs,	5
<i>Turkeys.</i>		To J. C. Longstreth, of——, for one coop of Bremen	
To Jonathan Dorwart, of Lancaster, for best pair of Tur-		Geese,	3
keys,	\$3	To John Sloan, of——, for two coops of handsome young	
To S. C. Radford, of West Philadelphia, for 2d best,	2	Shanghaes,	3
<i>Geese.</i>		To George Vanartsdalen, of Bucks county, for very hand-	
To H. W. Ditman, of Philadelphia, for best pair of Bre-		some display and variety,	5
men Geese,	\$3	To Joseph Breeding, of——, for display of Cochin and	
<i>Muscovy Ducks.</i>		White Shanghaes,	5
To Wm. Leonard, of Philadelphia, 1 pair Muscovy Ducks,	\$3	To J. J. Hoopes, of——handsome display,	8
<i>Common Ducks.</i>		To Jesse M. Williams, of Philadelphia, for display of	
To Jesse M. Williams, of Philadelphia, best pair Common		ducks, Java Fowls, Geese, &c.,	8
Ducks,	\$3	To R. L. Rutton, of——, for one cage of Indian Moun-	
<i>Pea Fowls.</i>		tain Game,	3
To Wm. Leonard, of Philadelphia, best pair Pea Fowls,	\$5	To Pierce Byren, of——, for three cages of Indian	
<i>Guinea Fowls.</i>		Game, one cage fine Shanghaes,	5
To Jonathan Dorwart, of Lancaster, best pair,	\$3	To same gentleman for one imported English Pheasant,	3
<i>Pigeons.</i>		To Dr. James Crabb, of Philadelphia, for fine collection	
To Wm. M. Clark, of Philadelphia, for best exhibition of		of Bantams,	3
Pigeons,	\$5	To same gentleman for fine collection of imported Hens,	2
To E. Heston, for second best do.	3	To same gentleman for fine collection of Indian Moun-	
<i>Imported Fowls.</i>		tain Game,	2
To George H. Yard, of Trenton, N. J., for best pair of		To same gentleman for general display,	5
imported Fowls,	\$5	To S. C. Radford, of Philadelphia, for Ducks, Poland	
To John McGowan, for second best do.	\$3	Fowls, Bantams and Doves,	5
N. B.—The Committee in awarding the premiums desire		To same gentleman for two cages, Pigeons and Black	
to say, that in consequence of the close competition in the		Hamburg Fowls,	3
best Shanghai and Cochin China fowls, and "best display,"		To same gentleman for two cages Blue Turkeys,	3
to do justice to the parties, agreed to award premiums of		To do for one pair Hongkong Geese,	2
equal merit.		To John McGowan, of——, for general display of Shang-	
The Committee with great pleasure state that they confi-		haes,	8
dently believe the display of poultry in every department far		To D. H. Brown, for one cage of California Quails,	3
exceeded any thing of the kind previously presented at any		To W. W. Clark, of Philadelphia, for handsome cage of	
of our Agricultural Fairs; and the Committee feel that those		Birds,	3
who add so much to the beauty and attraction of the grand		To Michael Crook, of——, for a display of 48 Jenets,	5
display deserve to be most favorably noticed. Many of the		To George Curwen, of——, for display of White and	
fowls were very superior, and consequently the competition		Buff Shanghaes,	5
very close. The Committee in some instances transcended		To Z. Campbell, of Frankford, for one basket Cochin	
their powers, but believed it just to act as they did.		China Hen Eggs, weighing 3 oz. each,	2
In addition to the premiums awarded above, the Commit-		To same gentleman for five cages Buff Shanghaes,	3
tee ask respectfully to recommend the following		To do for one cage Bantams,	3

To Z. Campbell, for general display, 3
 To H. W. Ditman, of Oxford, for fine Shanghae Fowls, 3
 To J. A. Gochering, for handsome Shanghaes and Brah-
 mas, 3
 To John Lippincott, of——, for display of Wild Ducks, 3
 Respectfully submitted.—A. J. JONES, CHAS. K. ENGLE,
 ADRIAN CORNELL, Committee.

No. 17.—PLOWING MATCH.

To Hon. F. Watts, President of the Pennsylvania State
 Agricultural Society:

The Committee (No. 17) on Ploughing Match, respectfully
 report that they award a special premium of a silver medal
 to Newell French, for his Michigan double plough. The
 Committee are of opinion that this plough is the greatest
 improvement of the age for deep ploughing. The Commit-
 tee also award a premium of \$15 to Newell French for
 ploughing with his Michigan double plough.

The Committee award the first premium of \$10 to George
 Buchanan, of——, for his "Wiggins" plough, and the second
 premium of \$8 to Jesse Paulding for his plough entered
 as "No. 10," and the 3d premium of \$5 to Prouty & ——,
 for their plough.

To Jacob Sibbit, the first premium as ploughman, \$15
 To George Blake, the second premium as ploughman, 10
 To Robt. Blake, the third premium as ploughman, 8
 To H. Rudolph Trego, for best ploughboy under 18 years
 of age, premium of 10
 To George Sackell, a boy over 18 years of age, and under
 21, a premium of 8

Respectfully submitted.—G. BLIGHT BROWNE, JOHN
 JOHNSON, GEORGE W. SHEAFFER, WILLIAM BELL, WILLIAM
 STAVELY, ADRIAN CORNELL, Committee.

No. 18.—FARM IMPLEMENTS, No. 1

To Hon. F. Watts, President of the Pennsylvania State
 Agricultural Society:—The undersigned Committee, No. 18,
 beg leave to make the following report and award of pre-
 miums:

To Thomas Castor, for best farm wagon, \$10
 To Paschall Morris & Co., best square expanding harrows, 3
 To C. B. Rogers, second best do., 3
 To James Morris, for best corn cultivator, "Buckman's,"
 a diploma, and \$5
 To D. Landreth, for second best, do., 3
 To S. & M. Pennock & Co., for best grain drill, exhibited
 by Paschall Morris & Co., diploma and 15
 To Stacy, for second best grain drill, diploma and 10
 For third best grain drill, Lee & Thompson, "Moore's,"
 exhibited by Paschall Morris & Co., diploma and 5
 For best seed planter, "Pennock's," exhibited by Paschall
 Morris & Co., 10
 For second best seed planter, "L. Patce," exhibited by
 Paschall Morris & Co., 5
 To Paschall Morris & Co., for best cultivator for general
 purposes, "Peckham's," patent, diploma and 10
 Best broadcast sower, none exhibited.
 To C. B. Rogers second best cultivator, 5
 To D. Landreth, for best small seed sower, 10
 To D. & H. Wolff, for second best, do., exhibited by
 Paschall Morris & Co., 5
 To Paschall Morris & Co., for best roller, 5
 To C. B. Rogers, for second best do 3
 To Paschall Morris & Co., for best fanning mill, "Roberts'
 United States," diploma and 10
 To Paschall Morris & Co., for second best fanning mill,
 "Keech & Stillwell's," 5
 To Paschall Morris & Co., for best corn stalk cutter, "O.

U. Seely's," 5
 To Paschall Morris & Co., for second best corn stalk cut-
 ter, "Daniel's," 3
 To Paschall Morris & Co., for best vegetable cutter, "Rug-
 gels & Co.," 5
 To Paschall Morris & Co., for second best vegetable cut-
 ter, "Whitemore's," 3
 To Paschall Morris & Co., for best corn and cob crusher,
 "Nichols," 10
 To D. Landreth, for second best corn and cob crusher,
 "Sinclair's," 5
 To Paschall Morris & Co., for best clover huller, "Hun-
 sicker & Co.," 10
 To Hibbs & Co., of Bristol, for second best clover huller, 5
 To Paschall Morris & Co., for best horse cart, made by N.
 Coleman & Son, Philadelphia, 5
 To D. Landreth, for best ox cart, 5
 To D. Landreth, for best horse rake, by Hibbs & Co., of
 Bristol, 5
 To D. Landreth, for second best horse rake, "Indepen-
 dent," 3
 To Paschall Morris & Co., for best ox yoke, 5
 To Paschall Morris & Co. for second best ox yoke, "Pen-
 nock's," 3
 To Paschall Morris & Co., for best corn sheller, hand and
 horse power, L. H. Davis' patent, 10
 To D. Landreth, for second best corn sheller, horse power,
 Reading's patent, 5
 To D. Landreth, best road scraper, 3
 To C. B. Rogers, second best road scraper, 2
 To Joseph Y. Collins, for best wheelbarrow, diploma

Your Committee beg leave to say, that there were many
 other articles on exhibition, which were well worthy of at-
 tention; but, owing to the great amount of labor attending
 the duties of the Committee, and a want of proper arrange-
 ment of the articles, we could not give them that examina-
 tion which many of them merited.

We would respectfully suggest, that the duties of this
 Committee, at another exhibition, be subdivided into not
 less than three Committees.

We beg leave to report that we have examined the "Self-
 Shutting Farm Gate," deposited by Townsend Sharpless,
 exhibited by Paschall Morris & Co., and pronounce it admi-
 rable in every particular, and therefore award him a diplo-
 ma.—DAVID COCKLEY, WM. H. HOLSTEIN, ISAAC W. VAN
 LEER, Committee.

No. 19.—FARM IMPLEMENTS, No. 2.

To Hon. F. Watts, President of the Pennsylvania State
 Agricultural Society:—Your committee, No. 19, respectfully
 report that the Farm Implements submitted for their exami-
 nation, as per catalogue, were of a superior quality, and
 they award the following premiums and diplomas:

To Paschall Morris & Co., for best Churn, Spain's Atmos-
 pheric Barrel Churn, \$3
 To D. Landreth, for second best Churn, 2
 To Melloy & Ford, Philadelphia, best twelve Milk Pans, 3
 To do for second best do 2
 To do for best Milk Strainer, 2
 To do for second best do 1
 All the articles exhibited by Messrs. Melloy & Ford were
 of a superior quality.
 To Paschall Morris & Co., for best Potato Masher, \$3
 To Charles Heite, of Philadelphia, for best Grain Cradle, 2
 To Paschall Morris & Co., best Scythe and Snaathe, diploma
 To D. Landreth, for second best Scythe and Snaathe, \$1
 To Paschall Morris & Co., for best six Hay Forks, Sheble
 & Lawrence, 3

To D. Landreth, for second best six Hay Forks, 2
 To Paschall Morris & Co., for best 6 Grass Scythes, diploma
 To Paschall Morris & Co., for second best six Grass
 Scythes, \$2
 To Paschall Morris & Co., for best 6 Axes, Beatty's, diploma
 To Paschall Morris & Co., for best six Manure Forks, She-
 ble & Lawson's, \$3

Your Committee would here observe that forks of all de-
 scriptions displayed by the firm of Sheble & Lawson were of
 the finest quality.

For best six Devonshire Shovels and best six Canal Sho-
 vels—the display of these articles exhibited by D.
 Landreth, and by Paschall Morris & Co., were so good
 and similar, that the Committee award to each a diploma

To D. Landreth, for best six Spades, diploma
 To Paschall Morris & Co., for best six Corn Hoes, \$3
 To D. Landreth, for second best six Corn Hoes, 2
 To Paschall Morris & Co., for best lot of Grain Measures, 3
 To John H. Allen & Co., for best dozen of Wire Brooms, 2
 To John H. Allen & Co., for best dozen Shaker or Corn
 Brooms, 2

To John H. Allen & Co., for best half dozen Corn Bas-
 kets, 5
 To Paschall Morris & Co., for second best half dozen Corn
 Baskets, 3

A Butter Worker, simple in construction, and admirably
 calculated for the making of butter, was invented and
 presented by Miss Letitia A. Smith, of —. It was
 exhibited by Paschall Morris & Co. Your Committee
 would award it a premium of 3

To E. J. Dickey, (exhibited by P. Morris & Co.,) for sec-
 ond best Butter Worker, a premium of 2

To Henry A. Dreer, for a beautiful case of Horticultural
 Implements, 3

To Jonathan E. Rhoads, for a superior lot of Scythe
 Stones, diploma

To D. Landreth, for best Hoisting Hay Forks, \$3

An almost endless variety of implements were presented
 under this class (No. 2.), principally by Paschall Morris &
 Co., and D. Landreth, which were not entitled to premiums
 by the printed catalogue.

Your committee would do violence to their feelings, and
 injustice to Messrs. Paschall Morris & Co. and D. Landreth,
 did they not take further notice of the very large and fine
 display of implements made by those gentlemen, of every
 variety and of the finest quality for agricultural and horti-
 cultural purposes in the most extended applications of the
 term, giving an earnest to the agricultural community that
 they are capable of supplying any demand made on them
 for implements in all their variety. The Committee feel
 much pleasure in awarding to each a silver medal.

In conclusion your Committee would respectfully suggest
 the propriety of having all articles that may be presented
 for exhibition hereafter, placed together under their respec-
 tive classes or numbers. Such an arrangement would save
 the Judges trouble in their arduous duties, as well as much
 dissatisfaction among contributors.—THOMAS P. KNOX,
 JESSE GEORGE, GUSTAVUS ENGLE, Committee.

NO. 20.—FARM IMPLEMENTS, No. 3.

To Hon. F. Watts, President of the Pennsylvania State
 Agricultural Society:—The Committee, No. 20, on Farm
 Implements and Machinery have examined with as much
 care as time would permit, the articles submitted to their
 inspection, and have been greatly gratified with the appear-
 ance of the exhibition, and feel that, although they have en-
 deavored to do justice to the exhibitors, yet in much they
 possibly have failed. The great variety of implements ex-

hibited to us, and the necessity of examining each separate-
 ly, prevent the Committee from particularizing.

The Committee would most respectfully suggest that here-
 after a separate committee be appointed on Steam Power
 and Hydraulics, as a knowledge of farm implements and
 machinery does not necessarily imply a knowledge of either
 of the former.

Your Committee have awarded premiums as follows, viz:

To John Stull, of Philadelphia, for the best portable Saw
 Mill, a silver medal

To C. B. Rogers and David Landreth, for the next best,
 the sum of \$5 each, \$10

To A. L. Archambault, for the best Steam Engine for
 farming purposes, easily portable, diploma and 20

To Alduck & Sargent, for the best portable Grist Mill, C.
 W. Brown's patent, 20

To Straub & Balliet, for the next best, diploma

The Committee also award \$10 to Henry Loyer for Le-
 vitt's improved Corn and Cob Mill.

To Paschall Morris & Co., for Atkins' Automaton Self
 Reaper and Raker, a silver medal

To Lee & Thompson, for the Pennsylvania Reaper and
 Raker, exhibited by Paschall Morris & Co., \$10

To S. G. Allen, of Salem, N. J., for improved combined
 Reaper and Mower, exhibited by Paschall Morris &
 Co., is awarded a silver medal

To David Landreth, for Hussy's Reaper and Mower, \$10

To Paschall Morris & Co., for Manny's Reaper and Mow-
 er, manufactured by Wm. Johnson & Co., 10

To Paschall Morris & Co., for Manny's combined Reaper
 and Mower, with an improved separator, diploma

To Boyer & Bro., of Harrisburg, for J. W. Hugit's Self
 Sharpening Reaper and Mower combined, \$10

To R. T. Elkinton, of Philadelphia, for McCormick's
 Reaper and Mower combined, diploma

To Jesse Urmy, of Wilmington, Del., for Reaper and
 Mower combined, \$20

To C. B. Rogers, for Allen's Mower, a silver medal

To Paschall Morris & Co., for Wood's Mower, Manny's
 patent, \$10

To Wm. Manning, for North American Mowing Machine,
 with revolving knives, working with one or two
 horses, 10

To Abner Garrett, of Chester county, for Hallenback's
 Mowing Machine, exhibited by Paschall Morris &
 Co., 10

To R. T. Elkinton, of Philadelphia, for the best Sweep
 Horse Power, Pelt's Horse Power, 10

To C. B. Rogers, for second best do. do., 5

To Alfred Blaker, of Bucks county, for the best Railway
 Horse Power, 10

To David Landreth, for the second best do., 5

To Paschall Morris & Co., for Gilbert & Rittenhouse's
 Railway Horse Power, a diploma

To Alfred Blaker, of Bucks county, for the best Threshing
 Machine, a diploma and \$10

To David Landreth, for second best do., 5

To C. B. Rogers, for Wheeler, Melick & Co.'s Threshing,
 Separating and Cleansing Machine combined, 20

To R. T. Elkinton, of Philadelphia, for Threshing, Sepa-
 rating and Cleansing Machine combined, a diploma

To W. W. Dingee, of York, for Portable Hay Press, ex-
 hibited by Paschall Morris & Co., \$10

To Paschall Morris & Co., for E. Spain's patent Atmos-
 pheric Churn, a silver medal

To Thomas Palmer, for second best Churn, a diploma

To Alfred Blaker, of Bucks county, for best Separator, \$10

To David Landreth, for second best, 5

To Paschall Morris & Co., for Gilbert & Rittenhouse's Threshing Machine and Separator,	10
To Paschall Morris & Co., for Deering & Dickson's Portable Horse Power Hay Press,	10
To Paschall Morris & Co., for best Dog power for Churning Machine,	5
To Thomas Palmer, for best Washing Machine,	5
To John Pierce, for Washing Machine,	diploma
To Paschall Morris & Co., for Harris' Ohio Buckeye Clothes Washer,	a diploma
To David S. Siner, for the best double acting Lift and Force Pumps,	a silver medal
To Maull & Brothers, for Barker's patent Pump,	\$10

Among the many and various pumps on exhibition, your Committee were particularly interested in the great variety exhibited by Corning & Co., of Seneca Falls, N. Y.; among which are the iron, brass, and side cistern pumps, especially used and adapted to the farmer; the out-door cistern and well pumps, with the iron and side force pumps, deserve particular attention; the tight top well pump and brass force pump for house are particularly commended; the deep well, railroad, double acting and iron house pumps have a value, in the estimation of the Committee, which should commend them to all persons requiring articles of the kind; the garden and fire engine pumps are more perfect than any other the Committee have examined. For this collection the Committee award a silver medal.

The Committee have examined the various hydraulic rams for raising water, and they are pleased to observe that there is great competition here, as in other matters connected with the duties of this Committee, but disposed to do justice to all in the limited capacity in which they are acting, they award to

Allan Ganthrop, for best Hydraulic Rams,	\$10
Morris Heston, for 2d best do do	5

For the best hay and cattle weighing scales they award to George W. Colly, for Fairbank's Scales, a diploma and \$10 To Paschall Morris & Co., for Abbot's Scales, diploma To A. B. Davis & Co., for scales, \$10

To George W. Colly, for the best weighing machine for general farm purposes, Fairbank's patent, diploma

To Geo. W. Colly, for best lot of large and small scales, \$5 To Paschall Morris & Co., for best portable Cider Press, Krauser's patent, a silver medal

To David Landreth, for second best, Hlickok's patent, \$5 To E. Spain, for best variety of Cooper Work, exhibited by Paschall Morris & Co., a silver medal

To Paschall Morris & Co., for second best, \$5 To Paschall Morris & Co., for best Lime Spreader, entered by Lewis Cooper, 10

To Joseph W. Fawkes, for second best, 5 To Paschall Morris & Co., for best Guano Spreader, a silver medal

To Paschall Morris & Co., for best collection of Farmers' Tools, arranged in a deposit, \$5

To Paschall Morris & Co., for the best invention for securing the run of water in drains, manufactured by Jas. Wardrop & Co., Pittsburg, 5

To D. Landreth, for second best, 3 To Paschall Morris & Co., for the best and most numerous collection of Agricultural Implements, a diploma and 25

To D. Landreth, for the second best, 20

The Committee, with pleasure, mention C. B. Rogers and Charles Keite, of Philadelphia, George Churnside, of Wilmington, Delaware, and James Robb, of Huntingdon, Pa., as exhibitors of agricultural implements, and award them each \$10.

So many articles within their class have been exhibited,

deserving of more careful attention than the Committee have been able to give, that they can only suggest that hereafter the division of committees may be more extended, so that more perfect justice may be done to exhibitors.

The Committee also, without intending to "travel from the record of their duty," may be permitted to suggest that permanency of place of the State Fair would, in their opinion, render each succeeding exhibition more perfect in its arrangements, and more generally useful and interesting. —E. W. STURDEVENT, J. B. LEEDOM, LEONARD SHALLCROSS, Committee.

No. 21.—LEATHER AND ITS MANUFACTURES.

To Hon. F. Watts, President of the Pennsylvania State Agricultural Society:—The Committee, No. 21, on Leather and its Manufactures beg leave to make the following report, after a careful examination:—

The goods deposited by Messrs. Lacey & Phillips, of Philadelphia, consisting of three sets of double harness, two ladies' and two gentlemen's saddles, bridles, horse covers, &c.; also, a very superior double carriage harness (previously exhibited at the Crystal Palace, and there received a silver medal). We consider Messrs. Lacey & Phillips entitled to a special premium, or the highest award that can be given. We recommend for them a *silver medal for harness, unsurpassed in style, richness and elegance of execution*. The balance of their goods are superior in workmanship and style to any others exhibited.

The goods deposited by Moyer & Brother make a good display. We award them a diploma.

Trunks, exhibited by A. L. Hickey & Co., we consider superior to others on exhibition, and consider them entitled to the highest award—a silver medal—for their superior workmanship.

Goods deposited by F. H. Smith, very pretty, and entitled to a diploma.

Leather deposited by B. A. Crawford—fair sides, slaughter sole leather—we consider the best, and award him a diploma.

To H. M. Crawford, for one dozen best calf skins, we award a diploma

To Thomas Coleman, half-dozen Calcutta kips, diploma

To Samuel Armstrong, for harness leather, diploma

To Same, 3 bundles leather, best, diploma

To Same, 1 bundle saddle skirting, diploma

To Same, 1 bundle splits, diploma

To Daniel Stake, for three sides Spanish sole, manufactured at Franklin, Cumberland county, by Wm. McLain, diploma

To Henry Deamer, for best cart harness, \$5

To Charles P. Caldwell, for creditable exhibition of whips and canes, entitled to first premium, diploma

George H. Metz & Sons, Bellows foundry, &c.—We have only to say that they are good blowers, and consider them worthy the highest premium. a silver medal

—A. E. KAPP, JAMES BOUSTEAD, CHAS. T. MATTHEWS, L. F. MYER, Committee.

No. 22.—DAIRY SUGAR AND HONEY.

To Hon. F. Watts, President of the Pennsylvania State Agricultural Society:—The undersigned, Judges on Products of Dairy, &c., (Committee No. 22.) respectfully report, and regret that a very small number of articles of this class came under notice. The following are the awards of premiums for such articles as were presented for competition:

To Mrs. Job Hayes, 1st premium of \$20 for best butter, made from five cows, which were in profit since February last, producing 156 lbs.

To Mrs. Job Hayes, for 20 lbs of butter made in June, 1st premium of	\$10
To George Walker, for best firkin of butter, made in September, a premium of	10
To Miss Jemima Miller, for best five pounds of butter, 1st premium, set silver tea spoons	
To Miss — Howe, for 2d best five pounds of butter, 2d premium, silver cup	
To Mrs. Job Hayes, for 50 lbs of cheese over one year old, 1st premium,	\$10
To same lady, for 50 lbs cheese made this year, 1st premium,	10
To H. M. Hays, for 50 lbs cheese less than one year old, 2d premium,	5
To Francis Parkeson, for best 10 lbs of honey, 1st premium of	5

Also, to the same gentleman, a discretionary premium of \$3 is recommended for his very fine display of honey, it having been made in hives of his own construction.

To Wilson Baldwin, for second best 10 lbs of honey, 2d premium of \$3. This honey was made in Phelps's patent hive.

To John Smith, for 3d best 10 lbs of honey, 3d premium of \$2

The Committee would state that they examined three different kinds of bee hives.

Longstreth's hive, deposited by P. J. Mahon.

Phelps's hive, deposited by the patentee.

Parkinson's hive, deposited by the same.

Each is worthy of especial notice for different valuable qualities.

The Committee would award a "diploma" for a lot of butter made from the Alderney Cows, which did not strictly come under the rule for our decision. The butter was made by Mrs. Caroline Knight, and deposited by Craig Biddle.—LEWIS SHARPLESS, ADAM C. ECKFELT, JAMES A. MOORE, Committee.

No. 23.—FLOUR AND CORN MEAL.

To Hon. F. Watts, President of the Pennsylvania State Agricultural Society:—Your Committee (No. 23) on Flour and Corn Meal respectfully report, that they have examined all the flour and other articles submitted to their judgment, and beg leave to award as follows, viz:

The first premium of \$10 each on Flour is awarded to two barrels—one from Ashland Mills, deposited by Smedley & Rudolph, and the other from Lewistown Mills, John Sterrett & Co., deposited by L. G. Mytinger. Both barrels made from white wheat, and very superior for family or bakers' bread.

The second and third premiums are awarded to Wm. B. Thomas for his superior family Flour; the second of \$5 for his white Wheat Flour, and the third of \$3 for his Red Wheat Flour.

There was a small sample of Rye Flour exhibited by Charles L. Wampole, but the quantity being too small to enable the Committee to form an opinion of the work produced, no premium is awarded to the depositor.

To Patrick Queen, the Committee beg leave to recommend a premium of \$2 for his five bags Sea Island Hominy. This article seems to be well prepared and neatly put up for family use.

Of Smut Machines and Grain Separators, there were several varieties on exhibition. The Committee regret that they had no means of testing the relative merits of these machines. All of them seem to be well constructed, and in their general principles calculated to produce the desired result. But without other personal knowledge, the Committee

decline awarding any premium. The same remarks will apply to the Bran-Dusters exhibited.

Of Mill Stones, some very fine looking specimens were on the ground, and showed superior skill in their construction; but as to their good quality in the grinding of wheat and other grains, the Committee cannot pass judgment—practical experience alone being the true test of the quality of mill stones.—WM. M. HENDERSON, H. W. SNYDER, CALER STRODE, Committee.

No. 24.—GRAIN, SEEDS AND VEGETABLES.

To Hon. F. Watts, President of the Pennsylvania State Agricultural Society:—The Committee (No. 24) on Grain, Seeds and Vegetables, report as follows:

To Richard Pim, best bushel white wheat,	\$3
To Joseph Hennings, 2d best do	1
To G. & C. K. Engle, best bushel of red wheat,	3
To Jesse M. Williams, 2d best do	1
To Charles L. Wampole, best bushel of rye,	3
To George Blight, 2d best do	1
To David Landreth, for the best bushel of white flint corn,	3
To G. & C. K. Engle, for best bushel of oats,	3
To David Landreth, for 2d best do	1
To James Sloan, best bushel of potatoes,	3
To A. L. Felton, 2d best do.,	1
To Ira Gibson, for a very fine sample of "Foxite potatoes,"	3
To Joseph Harrison, for best bushel of sweet potatoes, Pennsylvania growth,	3
To Wm. Blair, best bushel field turnips,	3
To A. L. Felton, 2d best do	1
To A. L. Felton, best bushel of carrots,	3
To Wm. Blair, best bushel of parsnips,	3
To David Landreth, best bushel of flaxseed.	3
To Job Hayes, best bushel of timothy seed,	3

The Committee also notice a very fine collection of garden and field seeds grown by David Landreth, Esq., at Bloomsdale, numbering over two hundred different kinds. Also, some white flour corn and "Adams's" early six weeks' corn.

Paschall Morris & Co. also exhibited a large and highly creditable collection of field and garden products, including over one hundred varieties of seed.

The contributions were large, and the quality of the different articles exhibited, uniformly good, notwithstanding the unfavorable season for many of them, evincing an increased interest on the part of our farmers, rendering it difficult for the judges in many instances to decide.

Among the contributions, we notice fine samples of corn from G. Blight, E. Hindle, E. T. Hoopes, Thomas Yeamans, W. Blair, J. Kinnear. Rev. J. Goddard, E. J. Diekey, and others.

Samples of wheat from A. Garrett, M. Clegg, T. Yeamans, J. Lidster, J. Cope, P. and G. P. Whitaker, G. Vanartsdalen and others.

The competition in potatoes was large. Among the contributors we notice G. Blight, T. Yeamans, J. Simpers, F. Scattergood, J. Kinnear, J. C. Kane, T. R. Bunting, H. W. Ditman, and others, all of whom exhibited fine samples.

Messrs. Craig & Bellas, A. Garrett, G. S. Fox, E. T. Hoopes, M. H. Cornell, and C. M. Wampole, exhibited some good samples of oats.—JAMES S. HUBER, on behalf of the Committee.

No. 25.—DOMESTIC MANUFACTURES.

To Hon. F. Watts, President of the Pennsylvania State Agricultural Society:—The undersigned Judges upon Domestic Manufactures (No. 25) respectfully report, that the

exhibition under this head was extremely meagre when compared with other departments. The introduction of manufacturing establishments into our country has nearly banished that kind of household industry, which formerly produced articles of this class in such great abundance. Even among the articles exhibited, a number bore evidence of having been manufactured many years since. The Committee have made the following award of premiums:

To David M. Everly, of Lancaster county, for best lot of cocoons,	\$8
To Miss Harriet Sumney, of Lancaster city, for second best lot cocoons,	5
To David M. Everly, best reeled silk,	5
To Miss Harriet Sumney, best sewing silk,	5
To same lady, best silk stockings,	5
To Anna F. Gordon, best linen diaper,	5
To Mrs. Job Hayes, second best do	3
To Eli Logan, third best do	2
To Miss H. M. Hayes, best double coverlet,	5
To Eli Logan, second best do	3
To F. Feggenbush, third best do	2
To Mrs. Job Hayes, best home made shirt,	5
To Dr. John Curwin, second best do, made by the inmates of the Pennsylvania Lunatic Asylum,	3
To same, second best home made woollen socks, made by same,	2
To Mrs. George H. Bucher, best pair blankets,	silver cup
To Mrs. Job Hayes, second best do.,	\$5
To Eli Logan, third best do.,	3
To Mrs. Job Hayes, best plain linen,	silver cup
To Anna F. Gordon, second best do.,	\$3
To Mrs. Job Hayes, best woollen stockings,	3
To Eli Logan, second best do	2
To Miss M. B. Thomas, third best, do,	1
To George Buckman, 15 yards best rag carpet,	5
Second best rag carpet, made in the Lancaster county Prison,	3
To Eli Logan, best homemade flannel,	5
To Miss M. B. Thomas, best hearth rug,	5
—GEORGE SMITH, NATHAN GARRETT, EMANUEL HUBY, Committee.	

No. 26.—HOUSEHOLD MANUFACTURES.

To Honorable F. Watts, President of the Pennsylvania State Agricultural Society:—Your Committee, No. 26, on Household Manufactures, award the following premiums upon articles comprised within their schedule.

To Dr. John Curwin for best ornamental Needle Work, made by inmates of Lunatic Asylum at Harrisburg,	\$5
To Mary Brown, of West Philadelphia, for second best ornamental Needle Work,	3
To John C. Heald, of Philadelphia for best Ottoman cover,	3
To Martha C. Loughton, for second best Ottoman cover,	2
To Anna E. Stroup, of New Bloomfield, Perry county, for best table cover,	3
To Mrs. S. T. Johnson, of Wilmington, Del., for second best table cover.	2
To Frederick Hapold, of Philadelphia, for best Artificial Flowers,	3
To M. B. Thomas, of Westchester, for second best Artificial Flowers,	2
To Anna M. Mott, of Philadelphia, for best variety of Worsted Work,	5
For second best, None.	
To Emily Welsh, of West Philadelphia, for the best worked cushion,	3
To Mary P. Wood, for best Quilt, her Silk Star Quilt.	3
To Mary M. Spangler, of Philadelphia, for second best	

Quilt,	2
To Mrs. E. T. Miller, of Philadelphia, for the best Lamp Stand Mat,	3
To M. B. Thomas, of Westchester, for second best Lamp Stand Mat,	2
To Margaret G. Bradley, of Philadelphia, for best ornamental Shell Work,	3
To Mary A. Royer, for second best ornamental Shell Work	2
To Mrs. Job Hayes, of Chester county, for best home-made Bread,	5
To Sarah Jane Logan, of Chester county, for the second best home made Bread,	3
To Sarah Jane Logan, of Chester county, for the best Pound Cake,	3
To Mrs. Job Hayes, for second best Pound Cake,	2
To Mrs. Job Hayes, for best Sponge Cake,	3
To Sarah J. Logan, for second best Sponge Cake.	5
To Eliza G. Walker, of Allegheny county, for the best Preserves, a silver cup	
To Sarah Jane Logan, for second best preserves,	3
To Sarah J. Logan, for best Tomatoes Preserves, a silver cup	
To A. G. Walker, of Allegheny county, for second best Tomatoes Preserves,	\$3
To Sarah J. Logan, for best Tomatoes Figs,	5
To Miss Harriet Sumney, of Lancaster county, for second best Tomato Figs,	3
To Sarah J. Logan, best, specimen of Pickles,	3
To Sarah J. Logan, for best Quince Butter,	3
To Mrs. Job Hayes, for second best do do.,	2
To Mrs. Job Hayes, for best Peach Butter,	3
To Sarah J. Logan, for second best do do.,	2
To Mrs. Geo. H. Bucher, of Cumberland county, Pa., for the best home-made Soap,	3
To Mrs. Job Hayes, for the second best home-Soap,	2
To Mrs. Job Hayes, for the best Fruit Jelly,	3
To Mrs. Eliza G. Walker, second best do do,	2

SPECIAL PREMIUMS.

To Matilda B. Thomas, of West Chester, for excellent Crochet work,	2
To Mrs. Gillespie, for superior worked Piano Cover,	2
To Miss Margaret Pogley, for Ornamental Leather box, &c.,	2
To Edward Remick, for fine Worsted Work, in frame,	2
To Rebecca Githens, for Demonstrative Scale for cutting Ladies' Dresses,	2
To Miss Emily Welsh, of West Philadelphia, for needle worked Table Mats,	2
To Mrs. E. T. Miller, of Philadelphia, for embroidered Table Cover,	2
To Dr. John Curwin, for Quilt made by inmates of the Lunatic Asylum, at Harrisburg,	2
Respectfully submitted.—P. R. FREAS, JOSEPH KONA-MACHER, R. W. COLEMAN, Committee.	

No 27—MANUFACTURES OTHER THAN DOMESTIC.

To Hon. F. Watts, President of the Pennsylvania State Agricultural Society:—Your committee, No. 27, on Manufactures other than Domestic, report, that they examined all the articles that came under their notice, and award the following premiums; viz:

To Michael Lawn, for omnibus,	diploma
To Lane & Co. for Germantown wagon,	diploma
To Lane & Garner, for do do	diploma
To Lane & Garner, for Jenny Lind wagon, two seats 1, 1st premium.	\$10
To John Wagner, do do 2d do	5
To Charles W. Conover, for top buggy 1st prem.	10
To Lane & Garner for do 2d do,	5
To Cyrus S. Haldeman, trotting wagon,	diploma

To J. J. Collins, do	diploma.	To Mr. Haines, for best home made wine,	3
To John Kneip' trotting wagon body,	diploma	To do for second do,	2
To Moses Hey, woolen knitting yarn, 1st prem.	3	To do for best home made bounce.	3
To James C. Ogden, do do,	diploma	GRAPES.	
To James C. Ogden, bed ticking,	diploma	To I. B. Baxter, best collection Native,	silver medal
To Lancaster Co. Prison, cotton bags,	diploma	To Peter Raabe, 2d best do,	\$3
To same woolen carpet,	diploma	To A. L. Felton, best 6 bunches Isabella,	2
To George Buckman, rag earpet,	do	To Wm. John, 2d best do do,	1
To Rockhill & Wilson, fine display of clothing,	do	To Wm. Martin, Sr., best 6 bunches Catawba,	3
To J. E. Colgrove school desks,	do	To Henry Smith, 2d best do do,	2
To Hortsman, military goods,	do	To T. Hilyard, best 6 bunches Elsinborough,	2
To B. Sherman, display of carpenters' tools, 1st premium	\$5	To Peter Raabe, 2d best do do	1
To John Colton, do do 2d do,	3	To Wm. Savery for another, variety,	2
To William Goldsmith, do do,	diploma,	To Robert Buist, for best collection of foreign grapes, 20	
To Geo. J. Henkels, display of furniture,	silver medal.	varieties,	silver medal
To Courtney & Willits, display of cottage furniture en-		To David S. Brown, for collection of best foreign grapes,	
amelled,	silver medal.	only 15 varieties,	silver medal
To Dickel & Margan, birch wardrobe,	diploma.	To Wm. Johns, for 2d best do do,	\$3
To George W. Hocker, marble wagon,	diploma.	To D. S. Brown, for best black Hamburg, 3 bunches,	3
To Amos Laman, child's vattent,	diploma.	To D. Murphy, 2d best do do,	2
To same, Pennsylvania Marble Wagon,	diploma	To H. Cowperthwaite, best Chasselas,	3
To Chas. S. Swope, child's gigs and carriages,	diploma.	To D. S. Brown, best white Muscat,	3
To John Pfaff, slate (ivory),	diploma	To same, best Frontignac,	3
To J. Bancroft, fancy soaps,	diploma.	To D. Murphy, 2d best do,	2
All which is respectfully submitted.—E. P. THOMPSON			
WM. BELL, HENRY C. EVER, Committee.			

No. 28—WINTER PREMIUMS.

Winter premiums will be awarded at the annual meeting of the society, at Harrisburg.

No. 29—FRUIT.

To Hon. F. Watts, President of the Pennsylvania State Agricultural Society:—Your committee, No. 29, on Fruits, respectfully report that they have awarded the following premiums, viz:

To D. Miller, Jr., of Carlisle, for best collection of apples and pears,	\$10
To E. A. Vickroy, of Johnstown, 2d best collection of apples and pears,	5
To J. Perkins, best bushel of apples,	2
To J. P. Lee, apples, best six native varieties,	2
To J. C. Baldwin, 2d best do do	1
To Isaac Collins, for best quinees,	2
To L. Chamberlain, 2d best do,	1

And they recommend a special premium of \$5 to L. Chamberlain for Chinese quinees.

To W. Mackaw, best native collection of pears,	\$10
To W. Mackaw, 1 peck of Seckel pears, best,	3
To C. B. Ott, 2d best Seckel pears,	2
To Mrs. Geo. Liggett, another variety, six specimens of Begnier,	2
To Mr. Mackaw, 2d do do, Washington,	2
To Mr. Mackaw, foreign, best collection of pears,	10
To I. B. Baxter, do, 2d best do do,	5
To I. B. Baxter, variety Duchess D' Angouleme,	3
To Mr. Mackaw, do 2d Doyenne Blane,	2
To Mrs. C. Whitaker, for Benro Diel pears,	2
To I. B., Baxter, for Doyenne Blane, 2d do,	2
To Chas. Morris, best Mountain sweet watermelons, 3 specimens,	3
To Jos. Hatch, 2d best, do do,	2

Special premiums for Pears, viz:

To Chas. Cornell and Peter Parker for Fondante de Mal vines and Petre, \$2 each,	4
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WINE.

To N. Longworth, of Cincinnati, for best home made Sparkling Catawba,	\$3
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To Mr. Haines, for best home made wine,	3
To do for second do,	2
To do for best home made bounce.	3
GRAPES.	
To I. B. Baxter, best collection Native,	silver medal
To Peter Raabe, 2d best do,	\$3
To A. L. Felton, best 6 bunches Isabella,	2
To Wm. John, 2d best do do,	1
To Wm. Martin, Sr., best 6 bunches Catawba,	3
To Henry Smith, 2d best do do,	2
To T. Hilyard, best 6 bunches Elsinborough,	2
To Peter Raabe, 2d best do do	1
To Wm. Savery for another, variety,	2
To Robert Buist, for best collection of foreign grapes, 20 varieties,	silver medal
To David S. Brown, for collection of best foreign grapes, only 15 varieties,	silver medal
To Wm. Johns, for 2d best do do,	\$3
To D. S. Brown, for best black Hamburg, 3 bunches,	3
To D. Murphy, 2d best do do,	2
To H. Cowperthwaite, best Chasselas,	3
To D. S. Brown, best white Muscat,	3
To same, best Frontignac,	3
To D. Murphy, 2d best do,	2
To H. Cowperthwaite, another variety, best,	3
To D. S. Brown, best Chasselas, rouge,	2
To Andrew Craig, gardener to the Magdalen Asylum, for best bushel of Peaches,	4
To I. B. Baxter, best peck of Peaches,	2
To Geo. Doakynne, 2d best do do,	1
To Benj. Galice, best Dozen Peaches,	2
To Wm. W. Fraley' 2d best do do,	1

Plums, not the Required Complement.

To J. C. Zane, best Mellons, Citron,	2
To A. L. Felton, 2d best do do,	1
For the best and greatest number of choice varieties of Peaches, three of each variety, to J. W. Thorne,	
For 2d best do do, to J. W. Summey,	5
To J. C. Zane, best specimen Musk Melon,	3
To G. W. Earle, 2d best do do,	2
To Wm. Martin, Sr., of Allegheny county, for the best training of Grape Vines,	silver medal

Your Committee, before closing their report, cannot but express regret that the unpropitious nature of the season, which has been almost unexampled for drought, has limited, in a great degree, the quantity and quality, especially of those rich varieties of fruits which, under more favorable circumstances, would have, in all probability, furnished the most splendid display ever presented for exhibition.

All which is respectfully submitted.—E. W. KEYSER, THOS. HANCOCK, JAS. D. FULTON, W. E. BRISCKLE, Committee.

No. 30.—FLOWERS, PLANTS AND DESIGNS.

To Hon. F. Watts, President of the Pennsylvania State Agricultural Society:—Your Committee (No. 30) on Flowers, Plants and Designs have awarded the following premiums, viz:

For Private Collection of Green House Plants—20 Varieties.	
1st premium to James Kent, gardener to J. Francis Knorr,	\$20
2d premium to Thomas Robertson, gardener to B. A. Fahnestock,	15
3d premium to gardener of Wm. W. Keen,	10
4th premium to gardener of John Lambert,	8
5th premium to Alex. Burnett, gardener to H. Pratt McKean,	6

Collection of Green House Plants—20 Varieties—open to all.

1st premium to John Pollock, gardener to James Dundas,	\$20
2d premium to Robert Buist,	15
3d premium to Isaac Collins,	10
<i>Collection of Green House Plants—12 Varieties—open to all.</i>	
1st premium to Isaac Collins, gardener to Gen. Robert Patterson,	\$10
2d premium to John Pollock, gardener to James Dundas,	8
3d premium to James Kent, gardener to J. Francis Knorr,	6
4th premium to David Ferguson,	5
<i>Collection of Specimen Plants—4 Varieties.</i>	
1st premium to Peter Raabe,	\$5
2d premium to James Kent, gardener to J. Francis Knorr,	6
3d premium to John Pollock, gardener to James Dundas,	5
<i>Collection of Conifers—6 Varieties.</i>	
1st premium to Paschall Morris,	\$5
2d premium to John Gray,	3
<i>Collection of Achimenes.</i>	
1st premium to Thomas Robertson, gardener to B. A. Fahnestock,	\$4
<i>Collection of Orchids.</i>	
1st premium to Robert Buist,	\$5
<i>Collection of Ferns.</i>	
1st premium to John Pollock, gardener to Jas. Dundas,	\$2
<i>Designs of Cut Flowers.</i>	
Premium to Peter Raabe,	\$20
do to Henry Lynch, gardener to J. Rutter, West Chester,	10
<i>Designs of Cut Flowers, not exceeding 5 feet in height.</i>	
Premium to Henry A. Dreer,	\$4
do to Robert Kilvingston,	3
<i>Designs formed of Grasses.</i>	
1st premium to Mary Melvaine, West Philadelphia,	\$5
2d premium to Wm. Berry, gardener to Alfred Cope,	-
<i>Designs formed of Indigenous Plants.</i>	
1st premium to John McIntosh,	\$5
<i>Baskets formed of Cut Flowers.</i>	
1st premium to Mrs. M. Newkirk,	\$3
2d premium to John Kindler, gardener to Thos. Dunlap,	2
3d premium to Robert Kilvington,	1
<i>Bouquets for the hand.</i>	
1st premium to Charles Souchet,	\$3
2d premium to Henry Lynch, gardener to J. Rutter, West Chester,	2
<i>Dahlias—24 Varieties.</i>	
1st premium to Robert Buist,	silver medal
<i>Roses—20 Varieties.</i>	
1st premium to Robert Buist,	\$5
2d premium to Henry A. Dreer,	3
<i>Roses—Greatest Variety.</i>	
1st premium to Paschall Morris,	\$3
2d premium to Robert Buist,	2
<i>Verbenas—Greatest Variety.</i>	
1st premium to Robert Buist,	\$3
<i>German Asters—Best Collection.</i>	
1st premium to Charles Souchet,	\$3
The Committee with great pleasure notice a handsomely prepared collection of "Marine Algae," or "Sea Weeds," by J. M. Somerville, of Philadelphia, and a beautiful collection of variegated plants by Robert Buist—together with a handsome collection of plants from the garden of Dr. Jas. Rush, not entered for competition. They also notice an immense leaf of the "Victoria Regia," and a fine specimen of "Nelumbrum Speciosum," from the collection of Caleb Cope, and a splendid specimen of "Lycopodium Coesium," from Mr. Joshua Robinson, Pittsburg, Pa. Mr. Peter McKenzie, of Philadelphia, has contributed 250 varieties of green house plants, but not for competition. Respectfully submitted.	

—PETER MCKENZIE, HENRY L. TRIPLER, JACOB B. GARBEB, WALTER WHITE, J. E. MITCHELL, Committees.	
No. 30½.—GARDEN VEGETABLES.	
To Hon. F. Watts, President of the Pennsylvania State Agricultural Society:—Your Committee (No. 30½) on Garden Vegetables respectfully report that they have awarded the following premiums, viz :	
To James Jones, gardener at Girard College, for best 12 stocks of Celery,	\$3
To same person, for 2d best, another variety,	2
To A. L. Felton, for 12 best white table Turnips,	3
To J. & C. K. Engle, for 2d best, do do	2
To James Jones, gardener at Girard College, for best dozen long red Beets,	3
To Wm. Barry, gardener to A. Cope, best dozen Parsnips,	3
To Geo. Blight, of Germantown, for 2d best do do	3
To William Barry, gardener to A. Cope, best dozen yellow Onions,	3
To same, 2d best, do	2
To John Riley, gardener Insane Hospital, best three dozen yellow Onions,	3
To Jas. Jones, gardener, Girard College, best three dozen white Onions,	2
To A. L. Felton, best six heads Broccoli,	3
To Wm. Barry, A. Cope's gardener, best dozen Tomatoes,	3
To same, best peck do	3
To James Jones, gardener, Girard College, 2d best peck Tomatoes,	2
To George Blight, best Egg Plants, (second plants,)	3
To Henry Smith, Frankford, second best do do	2
To James Jones, Girard College, best six Egg Plants,	2
To Robert Buist, second best do do	1
To Jesse Rambo, Gloucester county, N. J., best dozen sweet Potatoes,	3
To Amos Darlington, West Chester, second best dozen sweet Potatoes,	2
To Wm. Barry, A. Cope's gardener, best half peck Lima Beans,	3
To John Gray, best three garden Squashes,	3
To L. P. Hoopes, West Chester, best dozen ears yellow seed Corn,	3
To John Kinnier, T. Dunlap's gardener, second best yellow seed Corn,	2
To John Gray, best dozen ears white seed Corn,	3
To M. B. Thomas, of West Chester, best dozen table Potatoes,	3
To John Kinnier, second best do do	2
To George Blight, best dozen Carrots,	3
To William Barry, second best do	2
To John Riley, best one dozen Salsify,	2
To William Barry, A. Cope's gardener, best six dozen heads Cabbage,	3
To John Riley, second best drum head Cabbage,	2
To James Jones, Girard College gardener, best red Dutch Cabbage,	3
To James Jones, Girard College gardener, best of another kind, Savoy,	2
To A. L. Felton, best six heads Lettuce,	3
To William Barry, second best do	2
To George Blight, best three dozen sweet Corn,	3
To A. S. Felton, second best do do	2
To George Blight, best three specimens narrow Squashes,	3
To John Riley, best two specimens Pumpkins,	3
To H. W. Ditman, Oxford, second best do	2
DISPLAY OF VEGETABLES.	
Best by market gardener, A. L. Felton, premium of	\$15
Best by amateur do, John Riley,	10

Second best do do, James Jones, Girard College garden-
er, 5

Third best do do, George Blight, 4
Respectfully submitted.—CHARLES P. HAYES, THOS.
MEEHAN, BENJ. GULLISS, Committee.

No. 31.—STOVES.

To Hon. F. Watts, President of the Pennsylvania State
Agricultural Society:—Your Committee, No. 31, beg leave
to submit the following report and award of premiums:

To Robert Wood, of Philadelphia, for

1. One large fountain, a silver medal.
2. Lamp stands, 1st premium.
3. Arbor seats and chairs, 1st premium.
4. Four vases, honorable mention.
5. Eight tree boxes, silver medal.
6. Four tables, creditable to maker.
7. "Lions and Dogs," images, silver medal.
8. Two sets stairs, manufactured from anthracite iron.
from Swede Iron Co., silver medal.
9. Lot of iron railing, silver medal.
10. Lot of ornamental castings, made for the "Farmers'
and Mechanics' Bank," manufactured from iron from Swede
Iron Co., silver medal.

11. Wrought iron carriage gate, well got up, and a beautiful specimen of wrought iron work.

12. Three bronze statues, well got up, creditable to maker and worthy of honorable mention.

Your Committee consider that Mr. Robert Wood is deserving of more than ordinary credit, for the fine display made by him.

Andrew Moyer, one lot stoves for heating and cooking, worthy of notice.

Hamill & Rennage, two spiral heaters, beautiful castings, and worthy of notice.

Warnick & Liebrandt, one lot stoves, beautiful workmanship, creditable to makers.

Neman & Warwick, one lot stoves and portable forge, beautiful castings, and worthy of especial notice.

A. J. Gallagher, lot of stoves and fixtures, honorable mention.

T. H. Lachenmies, lot of railing and iron bedsteads, honorable mention.

Abbott & Lawrence, lot of stoves of various kinds, beautiful specimens of workmanship, and worthy of honorable mention.

F. Forring & Son, lot of stoves, beautiful articles, and worthy of honorable mention.

F. Melvaine, hot air cooking range, made for heating an upper room, 1st premium, silver medal.

Keen & Co., one cooking range and warm air furnace, worthy of attention.

Reeder & Groff, lot of iron railing, deserving of honorable mention.

Josiah Kisterbock & Son, one wrought iron warm-air furnace and worthy of honorable mention.

Rand & Hays, beautiful assortment of Goods. We call particular attention to their Ventilator and Range.

Cox, Hager & Co., lot stove castings. We award them 1st premium, silver medal.

Peter & Johnson, for Rotary Roaster, a silver medal.

Cresson, Peterson & Stewart, fine assortment of stoves, worthy of notice, lot of enamelled hollow ware, awarded a silver medal.

Thomas F. Williams, one Govenier's cooking stove, awarded a silver medal.

S. A. Harrison, Chilson's Warming and Ventilating Furnace, awarded a silver medal; and for Grates, Mantels, &c.,

honorable mention. Respectfully submitted.—THOS. E. POTTS, L. LEVINS, THOS. C. WOOD, Committee.

No. 32.—SILVER WARE, GLASS AND GLASS WARE, CUTLERY AND BRITANNIA.

To Hon. F. Watts, President of the Pennsylvania State Agricultural Society:—Your Committee, No. 32, on Silver Ware, &c., award the following premiums, viz:

- To Franklin Smith, of Philadelphia, for best stained glass for windows, a silver medal
- To Conrad Bard & Son, Philadelphia, best specimen of Silver Ware, a fine collection, silver medal
- To Wm. J. Kerr, Philadelphia, for samples of Cut Glass Ware, a silver medal
- To Calvery & Holmes, Philadelphia, for variety of Britannia Ware, silver medal
- To S. H. Wilder, for display of Clocks, diploma
- To John O. Mead & Co., Philadelphia, for display of plated Silver Ware, silver medal
- To Philadelphia Glass Company, for sky lights, vault lights and window glass, diploma
- Respectfully submitted.—C. W. HARRISON, HEZEKIAH KING, SAMUEL WALKER, Committee.

No. 33.—BACON AND HAMS.

No. 34.—INVENTIONS.

To Hon. F. Watts, President of the Pennsylvania State Agricultural Society:—The Judges of articles enumerated in invoice No. 34, entitled Inventions, report that they have bestowed as much time as the brief continuance of the Exhibition permitted to the examination of the specimens allotted to them, some of which do not appear to come fairly under the designation of inventions. This remark applies especially to the display of "hats, caps and furs," which appears to your Committee to be highly creditable; but as they have no practical knowledge of such matters, they must decline making any reward other than a diploma to each of the following exhibitors, viz:

To Charles Oakford, for a most extensive and beautiful assortment of Hats, Caps and Furs.

To John S. Young, for a case of Hats and Caps of beautiful finish, and to Messrs. T. A. Boyce and John C. Pfeil for a similar display.

Among the inventions that appear to be really such, the Committee notice the following, viz:

A Hydraulic Ram of large size for supplying Railroad Depots and towns, deposited by Mr. Joseph Strode, of West Chester. It is deemed worthy of a discretionary premium of \$10, as being the most complete yet produced.

They would also notice the Vibratory Engine of Gardener's improvement as deserving of a diploma.

The premium of \$3 for the best specimen of pressed Brick is awarded to J. W. Andrews, of Norristown, for his specimen of brick burned with coal.

Diplomas are also awarded to the following, viz:

- Galvanized Iron, manufactured by McCullough & Co., of Wilmington, Del., deposited by J. C. Adams, diploma
- To Bayliss, Darby & Lynn, collection of Wire Work, diploma
- To Robert C. Justis, for Double Span Rotating Gate, open without alighting, diploma
- To E. Woolman, Self-Closing Gates and Hinges, diploma
- To N. B. Harris, Automaton Weighing and Packing Machine, diploma
- To same gentleman, for Hominy and Samp Mill, to manufacture from dry corn for sea purposes, diploma
- To G. R. Blakiston, lot of Hydraulic Cement, diploma
- To A. C. Gallahue, of Pittsburg, Machine for Pegging

Boots and Shoes,	diploma
To W. F. Scheible, 4 Seal Presses,	do
To Stewart & Thomas, Composition Roofing,	do
To Prof. James, for Safety Locomotive Bars,	do
To Stephen Ustick, for Brick Machine,	do
To Wagner & Lindlay, for Bricks,	do
To J. W. Andrews, for Bricks,	do
To Paxon & Phipps, for Bricks,	do
To Stratton & Bro., for Gas Apparatus,	do
To Jacob Zook, for Self-Acting Carrier for Lathes,	do
To C. B. Daniel, for Roofing Slate, Iron Girders and Shutters,	diploma
To Isaac T. Ford, for Expansion Bits,	diploma
—JOHN C. CRESSON, C. M. CRESSON, E. T. HYATT, Committee.	

No. 35.—MISCELLANEOUS ARTICLES.

To Hon. F. Watts, President of the Pennsylvania State Agricultural Society:—The Committee, No. 35, on Miscellaneous Articles respectfully offer the following report and award the following premiums:

To Richards & Betts, for Chrystallographs,	silver medal
To McLeese & Gernon, for Chrystallographs,	do
To D. B. Richards and McLees & Gernon, for Daguerreotypes, each	a diploma
To A. W. Williams, for Mezzographs,	do
To L. N. Rosenthal, for Tinted Lithographs,	silver medal

From the excellence of the Daguerreotypes of M. A. Root, your Committee regret that his contribution was received too late for competition, and leave the award to the Executive Committee.

To McCurdy, Jones, White & Co., for excellence of manufacture of Artificial Teeth,	silver medal
To Dr. Charles Neil, for Block and Plate Work,	do
To William C. Eastlack, for Block and Plate Work,	diploma
To Robert Bates, for his Case of Instruments for the Cure of Stammering, the Committee would recommend the special premium of	a diploma
To Wm. Calvert, Dentist, for improvement in Enamelling and Moulding Block Teeth,	a silver medal
Respectfully submitted.—A. L. ELWYN, PAUL B. GODDARD, ALFRED S. KENNEDY, Committee.	

No. 36.

To Hon. F. Watts, President of the Pennsylvania State Agricultural Society:—The Special Committee respectfully report, that owing to the great variety and number of articles submitted to their inspection, the merits of many of which could only be decided by actual trial, precluded by the circumstances under which a State Fair is held, they have not felt at liberty to award premiums to a large number of probably deserving exhibitors. When a number of exhibitors in the same line presented their claims, they have not pretended to decide upon their relative merits, inasmuch as their opportunity for examination was inadequate to the proper discharge of their duty. The following premiums are recommended:

For a very interesting collection of Pathological Specimens, illustrating the diseases of the Horse and other domestic animals, deposited by the American Veterinary Society,		a silver medal
For the display of Chandeliers, Gas Fixtures, &c., made by Cornelius, Baker & Co.,		a silver medal
To Allen & Needles, C. Cummings, C. B. Rogers, G. A. Leinaw, for Fertilizers, each		a diploma
To Peyton & Thomas, for display of Hemp and Cotton in bolls, exhibited by Paschall Morris & Co.,		diploma
To W. F. Murphy, of Philadelphia, for display of Black		

Books, Blank Ledgers, &c.	diploma
To A. Mann, of Philadelphia, display of Blank Books and Stationery,	diploma
To James R. Reed & Co., of Pittsburg, for one set of Engineering Instruments,	silver medal
To F. Reed, of Canton, Mass., case of Cordwainer and Garden Tools, exhibited by Paschall Morris & Co.,	diploma
To Daniel Halliday, of Ellington, Conn., for patent Wind Mill or Engine, exhibited by P. Morris & Co.,	silver medal
To P. Morris & Co., for patent Angular Hames,	diploma
To Paschall Morris & Co., for Stauffer's Bolting Apparatus,	diploma
To P. Morris & Co., for Canby's Grain Winnowing,	do
To Durand & Tourtelot, for Syrups, &c.,	do
To Thomas Butler, Philadelphia, for a beautiful display of superior Copper and Tin Ware,	diploma
To Hartman & Saxe, for display of Surveying Instruments,	diploma
To R. C. Walborn, Philadelphia, display of Shirts, Collars, Stocks and Wrappers,	diploma
To Wm. Rose & Brothers, Plasterers and Bricklayers' Trowels,	diploma
To E. D. Hatch, Domestic Hardware,	do
To Charles Bradfield, Philadelphia, for Turning Lathe and improved Belting,	diploma
To J. E. Mitchell, Philadelphia, Grindstones and Mill Stones,	diploma
To James Wood & Sons, Philadelphia, for patent imitation Russian Sheet Iron,	diploma
To J. F. Hammitt, Philadelphia, for improved Railroad Car Seat,	diploma
To E. G. Chommer, for case of Dies,	do
To — Krup, for Essence of Coffee,	do
To Bohler & Co., for Essence of Coffee,	do
To H. S. Hittner, specimens of Iron Ore,	do
To Hittner, Cresson & Co., for Pig Metal,	do
To A. Winter, for Machine for Sawing Fire Wood,	do
To Thomas Fisher, for "Mathematics Simplified,"	do
To F. Ford, Philad., for display of Window Blinds,	do
To James H. Bryson, No. 2, North Sixth Street, for his Printing Press in operation on Fair Ground, and for his Card Printing,	a silver medal
Respectfully submitted.—JAMES A. MCCREA, G. BLIGHT BROWNE, Committee.	

Delaware County Agricultural Fair

The first annual fair of the Delaware County Agricultural and Horticultural Society was held at Chester, on the 15th, 16th and 17th days of September. The display was creditable in the highest degree. A large number of superior horses and neat cattle of the best breeds were on the ground. Among the latter a pair of beautiful Durham cows, recently imported by C. Fallon, attracted much attention. There were also some fine hogs and sheep on the ground. The Manufactures and Machinists of Delaware county, were well represented, while the display of implements from the different agricultural warehouses of Messrs Landreth, Morris & Co, Rogers and Pennock & Co, were very imposing. The floral and horticultural departments were good considering the season, but what attracted most attention and seemed most to embellish the fair was the array of innumerable articles deposited by the ladies of Delaware county.

We subjoin a few of the principal first premiums:

Cattle:—Geo. Drayton, farmer to Christopher Fallon, 1st premium for imported Durham cow "Rose;" Devon Bull, "Wm. Bigler," and Devon cow "Maid of Runnymede;" Wm. Cook for Durham bull John; Chas. Kelly for Durham cows "Kate Kearney" and "Lilly;" Saml M. Felton for Alder-

ney Bull Buckskin; and A. S. Perkins for an Alderney cow. Among the first premium awarded to native stock was one of P. Lewis for a fine cow; Wm. Worrall two fat do. and Abraham Worrall for working oxen.

Sheep.—G. Drayton received 1st premium for lambs; R. Barclay Roberts for Cotswolds; G. B. L. Newton for broad-tails. S. M. Trimble exhibited some fine sheep of native stock.

Horses & Mules.—R. Boyd received 1st premium for his horse "Grouse Eagle"; Daniel Rice for young Messenger; H. Ewes for "Zachary's," a colt sixteen months old; T. Leiper for "Hunter;" do do for brood mare; D. S. Bunting also for brood mare two years old. O. Lewis received the 1st premium for mules.

Grain, Seed & Flour.—The first premium was awarded to G. W. Rigby for Mediterranean wheat; to Jacob Hewes for Etrurian wheat; to R. Mc Call for corn; John Garret for Irish Oats; Geo. Sharpless for Timothy seed; Jno. Seller for flour.

Plows.—C. Garrett & Son received the first premium for his sad and mellow ground plow. A special premium was awarded to the Double Michigan plow entered by Newel French, the patentee.

Fruits.—Jos. Edwards received the 1st premium for Apples; David Carr for plums; J. C. Andrews for pears; W. Smith, grapes; James Laws do also for pears; P. Gallagher also for grapes.

Vegetables.—George Sharpless received 1st premium for Mercer potatoes; R. Craven for best display of vegetables. J. C. Andrews for water-melons and cantelopes.

A number of premiums were awarded in other departments which we should like to notice had we space.

Bucks County Agricultural Society.

The eleventh annual exhibition of the Bucks county agricultural society was held at Newtown on the 20th of September. Notwithstanding the unfavorable season and other untoward circumstances, the display was very complete. The Bucks County Intelligencer states that "the stock of horses, cattle, grain, vegetables and household productions were more abundant than on any former occasion." The number of spectators was very large, estimated at from six to ten thousand. We append the following synopsis of the first premiums:

Grain.—Wm. Stavelly received the first premium for white wheat, (see notice of this wheat, page 331,) S. S. Harding, do for Mediterranean; R. Longshore do red; E. Buckman do rye; do do corn; B. Brown do oats; A. Cornell clover seed, and J. Eastburn do timothy seed.

Vegetables.—E. Campbell first premium for the best white mercer potatoes; A. Hibbs do red do; Jas. L. M. Nain do. Foxite potatoes; and W. M. Nain do. sweet potatoes. Y. Pickering best tomatoes; W. Carr best beets; A. Tomlinson best onions; W. Yardly best parsnips; do do carrots; J. C. Comly best cabbage; do do water melons; C. Pope best egg plants; G. Vanartsdalen best pumpkins; R. Y. Pool, best Lima beans; E. E. Paxson for fine display of beans.

Farming Utensils.—A. Boker best plow; do do corn sheller; do do clover sheller, do do straw and stalk cutter; do do do horse power; do do display agricultural implements; G. Buckman best corn dresser (double corn plow); Stephen Twining best grain fan; A. Cornell, best seed drill. This is perhaps the most complete machine in use for the purpose intended. There is no patent on it, and any good mechanic can make one. That exhibited was made by a gentleman named Comly, (and is gaged to sow from one to six quarts per acre.) Jonathan Hibbs received the first premium for the best horse rake; F. D. Foley, cider mill and press. The report of the trial of reapers and mowers having

been published in the August number, it is unnecessary to recapitulate it here.

Horses.—A large number of very fine horses were exhibited among which may be noted Grey Eagle, Black Bashaw, Bashaw Jr., Farmers Delight, Louis Napoleon, White Stocking. C. Kelly, C. Thomas, J. Watson, and others, exhibited matches of fine appearance and bottom. J. S. Eastburn took the first premium for brood mares. W. Livery, S. Cary, C. B. Knight, J. E. Smith, Capt. J. Smith, and others, had fine colts on the ground.

Mules & Oxen.—J. Beaumont took the first premium for mules. S. Gillan do. for mules four years old. Capt. J. Murfit received the first premium for oxen six years old and J. Buchanan for four year old.

Cattle.—As the improvement of this class farm stock is attracting much attention we give all the first premium awarded as an index for inquirers:

Devons.—R. Longshore best bull Red Jacket; also for best cow between two and three years, and between three and four years. D. Feaster, best cow over four years. Several premiums were also awarded for mixed Devons. *Durhams*.—David Feaster, best cow, Cherry, three years old; do do best bull 3½ years old. A. Cornell best cow "Victoria" nine years old; do do for "Lilly" between three and four years; do do for "Dairy Maid" between one and two years old. A number of mixed Durhams and Devons, and Durhams and natives, also received premiums. *Alderneys*.—A. S. Worthington best bull four years old; Jonathan Knight, best do. three years old, Geo. Vanartsdalen best do two years old; Jonathan Knight, best cow. *Natives*.—W. W. Carr, best bull, between two and three years old; G. Wynkoop best do, between one and two years old; R. E. Ely best cow four years old; R. Carr, best do between two and three do; J. Jenks, best heifer two years old; C. Torbert best do between one and two years old; do do best under one year old. J. P. Knight, best display of native cow. J. P. Knight received the first premium for the best dairy cow on trial for a mixed Alderney, that produced eleven and a half lbs of butter per week.

Butter.—Over thirty different samples of excellent butter were exhibited. The first premium was awarded to J. P. Knight.

Sheep.—The display of sheep was not large. A. Cornell received the first premium for Leicester, J. P. Knight, and L. Buckman for Southdowns, and L. T. Heldorn for natives.

Swine.—*Large breeds*. Geo. W. Hunt, best sow over two years old; do do best boar between one and two years; A. Cornell for the best Berkshire sow over one year old, do do best pair of pigs of mixed breeds, do do best Berkshire pigs over two months old; W. E. Campbell, for the best Chester and Berkshire pigs. *Small breeds*.—A. Cornell had a large lot of beautiful Suffolks which took no less than eight first premiums.

Poultry.—The display of poultry was very fine, consisting of all the fancy and valuable kinds in the county.

Fruit.—The amount of fruit on exhibition was not large, partly owing to the general failure of this crop. There were however fine apples, peaches, pears, grapes, &c.

Ladies Work.—The Ladies work consisted of almost every article of elegance and utility manufactured by female hands many of which may be noted silk bed quilts, cotton do, counterpanes, coverlets, blankets, sheets and sheetings, fancy table covers, do chair covers, do ottoman coverings, lamp and vaso mats, shirts, collars, nettings, straw hats, linen stockings &c &c commanding universal admiration and extracting many premiums.

Home Department.—Under this head is included bread cakes, preserves, jellies, pickles, cured meat, &c. Ellen Paf took the first premium for wheat bread; A. L. Johnson &

for rye, do; Mrs. A. C. Cornell for pound cake; R. Newbold for spongo do; Mrs. J. A. Beaumont best preserves; R. Newbold best jellies; Ann Eliza McNair best display preserved peaches, &c. Mrs. M. Carr best display of pickles, and J. S. McNair best cured ham.

Camden & Gloucester Agricultural Exhibition.

The exhibition of the Camden & Gloucester Ag. Society, was held at Woodbury, N. J., on the 19th of Sept. The cattle were generally natives and mixed bloods. There were some fine Devons, but few Durhams. We are told that there has been great improvement in the stock in these counties within the last five years, and those on exhibition corroborate this allegation.

One of the best features in this exhibition was the display of superior vegetables—not great in quantity, but of the highest excellence as to quality. Some sweet potatoes—27 of which were said to fill a “basket” (five half pecks)—were as smooth as if passed from a turning lathe. The mammoth watermelons were as good as they were great. Many other articles deposited, particularly some of those deposited by the fair daughters of the Jersey farmers, attracted marked attention, and had we space should receive marked notice.

The awards of the committee were doubtless published, but we have not been so fortunate as to receive a copy.

Montgomery County Agricultural Exhibition.

The recent fair of the Montgomery County Agricultural Society was well attended, and exceeded in some respects, any that have preceded it. The display of horses and neat cattle was very good, and clearly showed an increased determination of the Montgomery farmers to improve their stock as fast as practicable. We subjoin the following principal first premiums:—Best stallion for draft, Elijah Lewis, for “Eclipse”; do do for farm and road, Charles Stout, for “Sir Harry”; do do for road, John Kline, for “Perfection.”

Best yoke of oxen, John Style. Best Devon bull to Geo. Kriebitz; best Durham cow, to Edward F. Roberts; best native do, Alexander Pickings. Best Durham cow, to Edwin Moore; best Devon do, to Wm. Vansant; best native do, to Charles Burkheimer. Best Bakewell buck over one year old, Wm. Stephens; best do do under one year, Mrs. Findley; Best Southdown buck, Edwin Moore; best Ewes do do; best lambs, do do. Best Seed Drill, W. H. & E. Jones, Pennock's patent; best hay and straw cutter, do do. Moore & Aldrich's patent; best Corn Sheller, do do. Pennock's patent; best butter worker, Elwood Thomas, for Dickey's patent. Best wheat, Charles Syer; best rye, C. L. Wampole; best flint corn, L. Davis; gourd seed, John Pickings. The premiums given by this society are of the most liberal character, and show both ability and determination to render the organization highly beneficial.

Schuylkill County Agricultural Fair.

This society held its annual fair for 1854 at Orwigsburg, on the 17th, 18th and 19th days of October. There were a number of valuable animals on exhibition, but generally of the more common kinds. Among the swine were four beautiful Suffolk pigs, belonging to our friend J. S. Keller, as fat and as lazy as an alderman. A few feet farther along were two shoats, with long legs, long sides, long noses, long and broad ears, thin shoulders, and thin hams. Although labelled “seven months old,” they would not weigh as much as a pair of Chester county pigs at three. If premiums had been offered for the fastest trotting hogs, or largest eaters, this pair would certainly have taken the prize. The poultry

coops contained a number of fowls of the most popular kinds, and demonstrated, that Schuylkill county had not escaped the fever. The produce department contained a number of superior samples of cereals and vegetables.

Most of the land in Schuylkill county, as our readers know, is mountainous and unfitted for tillage; and much of that under cultivation is farmed in a very indifferent manner, but there, as in other sections, the spirit of enterprise is at work. More interest is taken in the improvement of the land than formerly, and large tracts, which a few years ago were waste lands, are now producing respectable crops. The influence of the Schuylkill County Agricultural Society has already had a happy effect, and with the stimulating prices of the Pottsville market, is destined at no distant day to quadruple the amount of produce now raised within its borders.

Fayette County Agricultural Society

The third annual fair of this society was held at Browns-ville on the 4th, 5th and 6th days of October. In many respects the display was admirable.

Among many fine horses Mr. James Torrence's Morgan horse from Alleghany county, attracted marked attention. Mr. Fleniken also exhibited a noble horse from Greene county.

A number of very fine neat cattle and sheep were exhibited. We quote some of the principal first premiums.

Breeds best Durham bull, Morgan Bell of Greene co. Best do calf, J. S. Goe; best do Durham cow, J. S. Goe; best Durham heifer, J. S. Goe; best Durham milk cow, J. S. Goe; Grade cattle, milk to Hamilton Crea; Native milk Cow, Aaron Worley; the best display of Blooded stock John S. Goe.

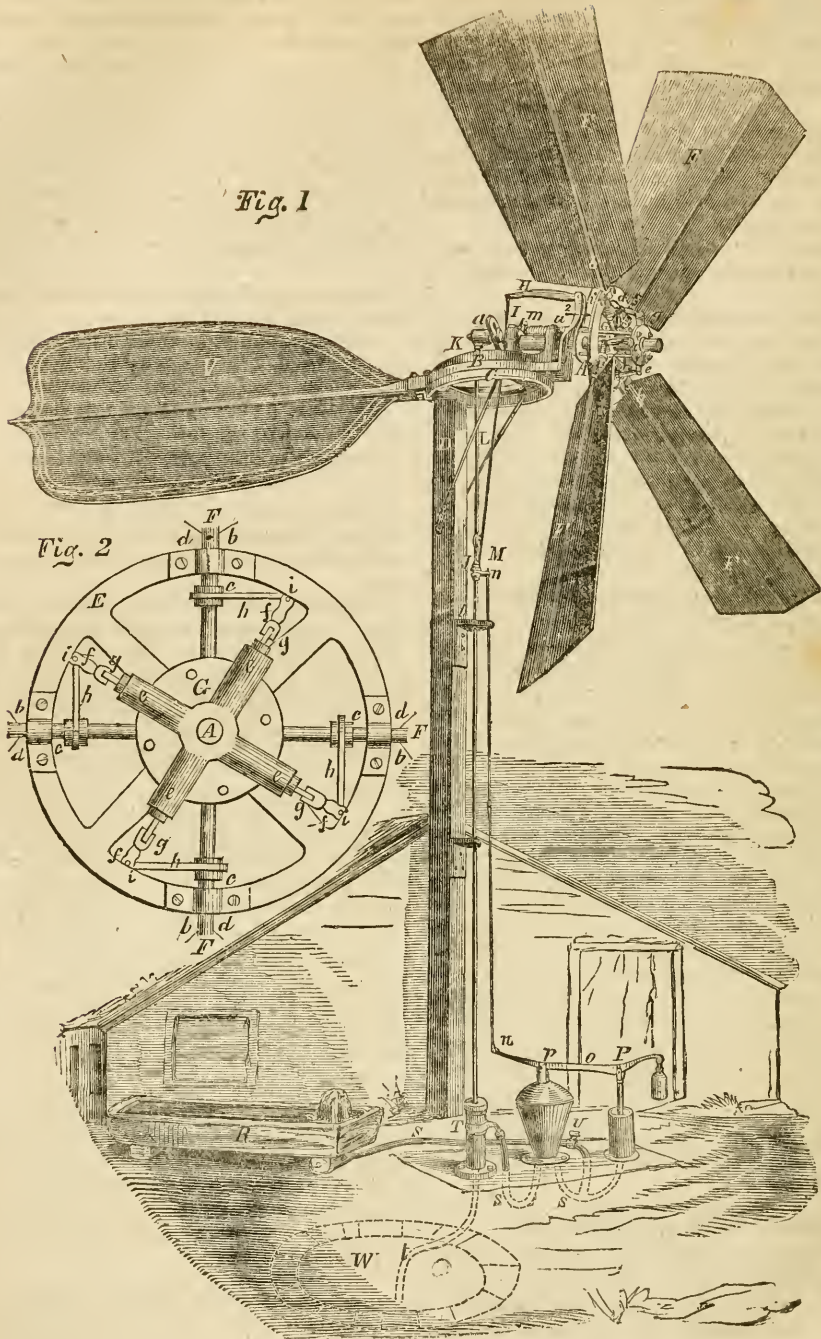
Best French Merino buck J. S. Goe; do do ewes, J. S. Goe; do do lambs J. S. Goe; do buck lamb, J. M. Gallaher; best buck lambs 6 in number, J. M. Gallaher; best ewe lambs, 6 in number, J. M. Gallaher; Spanish sheep, best buck, James Slocum; best buck lamb James Slocum; best ewe lambs, James Slocum; best pen of ewes, J. M. Gallaher; best Saxony buck Hamilton Crea; best Southdown do., Jona. Downs, do do lambs, Jona. Downs.

The Floral and Horticultural departments were not so well supplied as they would have been had the season been more favorable. The produce department was well represented both in quality and quantity.

Among other attraction to the Fayette county fair, was the contest for the premium for best lady rider and and driver. The skill exhibited by ladies in the ring is described by an eye witness as “very great.” Miss Flanagan, of Greene county received the first premium for the best riding, and Miss Grey, of Monongahela city for, the best driving.

Mercer County Agricultural Fair.

A correspondent who long since promised to give us an account of the annual fair of this society has not yet done so, and our Mercer exchanges containing the premiums never came to hand. We only know by a letter from a friend who mentions the fact incidentally, that it was, “considering the season, all that could be desired,” that it “was manifest the farmers there were determined to keep pace with their brethren elsewhere,” and that “the determination to raise and grow the best, was becoming more and more general”. Will some friend in Mercer county send us a copy of their proceedings?



HALLADAY'S PATENT WIND ENGINE.

We have procured the above cut of Halladay's New Wind Engine which was exhibited at the late state fair, and attracted so much attention.

It is made in the most thorough and durable manner, nearly all of Cast and Wrought Iron. The iron frame for the Fan or Wing is covered with thin painted boards or sail cloth, according to the size of the machine. By

a simple and ingenious device, as a gale of wind increases in severity, the wings gradually turn around, changing the angle at which they are set for a common breeze, presenting less and less resistance to the wind, till finally, when the tempest is raging at its height, hardly anything but its thin edges are presented to its power. As the fury of the gale abates, the fans gradually turn back,

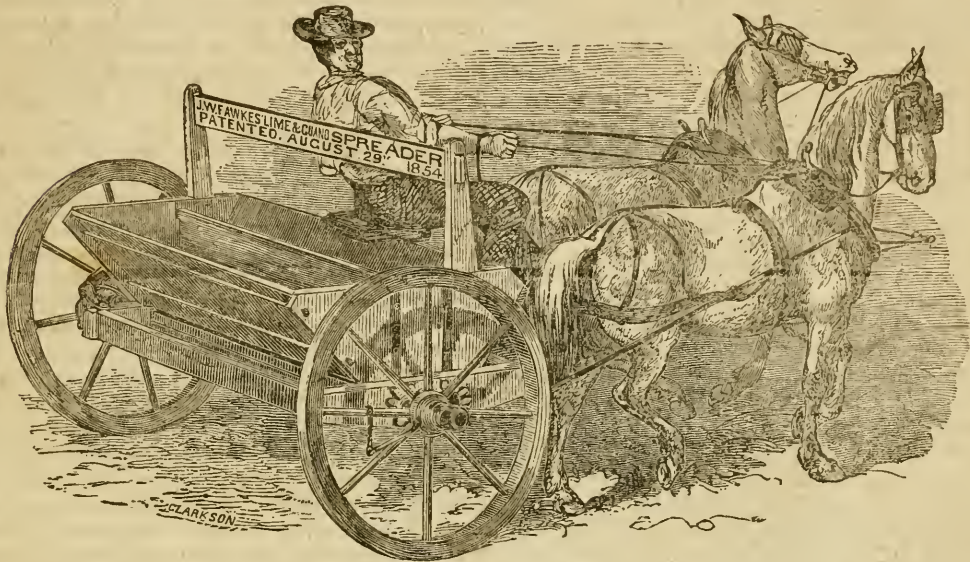
and when the storm is past, they resume their original position. The speed of the wind wheel is never increased by a powerful storm of wind, for it is as fully under the control of the regulator as the Water Wheel or Steam Engine. The boxes in which the crank and pin turn, are lined with Babit metal, and kept oiled by oil cups, tubes and lamp wick drawing the oil on as needed. If this Mill is well put up by competent workmen, it requires no attention for weeks together. Oiling twice a month is sufficient, if the right kind of oil is used.

No new implements noticed in the public papers, has been talked about by farmers in all parts of the country as this Wind Mill. It has been chiefly used as yet in pumping up water, but the patentee informs us, he is

about adapting it to horizontal gearing, so as to be used for threshing and grinding grain, cutting hay, cornfodder, and all other purposes for which steam or horse power may be required.

Of the *economy* of Wind power if it can be made available, of course there can be but one opinion and as several are about being constructed of Halliday's patent in the vicinity of Philadelphia, we hope to be able to give our readers, some practical information about their working. They are made of six sizes with wings from 8 to 20 feet in diameter, and at prices from \$50 to \$250 each.

Paschall Morris and Co, corner of 7th and market st, Philadelphia are agents for the sale of them.



J. W. FAWKES' PATENT LIME AND GUANO SPREADER.

This machine has been recently brought before the public, and has been received by many with favor. The advantages which the patentee claims for it are:

1st. It spreads both wet and dry lime, compost, etc., evenly and well, being entirely free from arching and clogging on the rollers, and leaves the lime in a loose and profitable condition.

2d. It is an entire machine within itself; is calculated for horses or oxen, can be hauled without waste of lime, and is capable of spreading more lime in various conditions, with the same number of hands, in the same given length of time, than any machine now before the public, as there is no one required in spreading damp or wet lime to be on the machine to continue punching the lime to keep it from arching, as my swinging division board, running lengthwise of the hopper, overcomes this difficulty.

3d. There are no cores admitted into the hopper but what are completely pulverized, and pass through with the lime; thus overcoming the great difficulty of leaving the cores lay in the hopper, which prevents the lime from passing through regularly.

4th. It requires no cart or sled to spread the wet por-

tion of the heap; and will spread as low as 15 bushels to the acre, and can be regulated to any desired quantity.

New Articles at the Late State Fair.

Among the many articles of great interest to the farmer and gardener exhibited at the late State Fair, we have prepared a short description of those which have either not been before exhibited, or are but little known to Pennsylvania farmers.

Krauser's Patent Portable Cider and Wine Mill.—An engraving of this was given in the July number of the Journal. It received a silver medal over Hickok's and all other cider mills, and is believed to be the best machine for the purpose now out. One of the peculiar features of this mill is the effective arrangements of the reciprocating pistons, which, by their alternate action, will cause a quantity of apples or grapes continually to advance with irresistible force against the passing teeth of the rapidly revolving cylinder, so that by the action of the latter the whole fruit will be at once reduced to pulp and discharged into the tub beneath the mill. The *idea intended*, and which is thus beautifully and effectively

reduced to practice, is that of exactly imitating the action of the human hand in holding an apple against the teeth of a revolving cylinder until it is entirely reduced to pulp. Its simplicity and power attracted great attention.

Spain's Patent Atmospheric Churns.—These were exhibited of twelve different sizes, beautifully finished with both brass and iron mountings, and attracted great attention. The peculiar merit of this churn consists in the constant admission of atmospheric air during the churning process, and the opening for the escape of fetid gas, which is always generated at such times, and in ordinary churns is retained to the great disadvantage of the butter and loss of labor. It is believed that more and better butter can be made in Spain's churn, from a given quantity of cream, and in a shorter time too, than in any other churn now known. The dashers also are moveable, and can be taken entirely out to render the cleansing easier and more thorough. There is also a wide opening for pouring in the cream.

Dickey's Butter Mould.—This is a small square form of two sizes, for pound and half pound prints, and such as are used in the extensive dairies of the Messrs. Dickey's of Chester county. It is made to rest on a block, the face of which has the impression or print to be transferred to the butter. Into this form it is pressed, after being weighed, by a small square wooden spatula, made for the purpose. The doors of the butter form are then opened by hinges, leaving the butter on the print block, which is then turned up, leaving a good impression on its face. The square form is also a great improvement as regards convenience for packing for market.

Smith's Butter Worker.—This appears to be a very simple and effective article for the use of the dairyman. It consists of a pan or box, beneath which is placed a drawer for ice or cold water, the interior of which is the cooling of the bottom of the pan or box, so as to put it in fit condition for the reception of the butter to be worked. The butter is then worked by means of a fluted lever. This useful improvement is the invention of Miss Lettie A. Smith, of Bucks county, and is well worthy the attention of dairymen generally.

Corn Shellers.—Amongst the many excellent corn shellers, Davis' Patent Hand and Horse Sheller deservedly attracted the attention of the farmers. We had not sufficient time to examine this sheller minutely enough to enable us to describe its peculiar arrangement. The cobs are separated from the corn in the process of shelling, which is a decided improvement upon most of the common style of shellers. But its principal merit consists in the perfect manner in which it shells the corn from the cob. Although tested before the committee with corn of the present season's growth, not a grain was left upon the cob, nor could we observe a single broken grain amongst the shelled corn. It was awarded the first premium.

Peeckham's Cultivator, with reversable teeth, although somewhat known, has not been extensively introduced. It does not differ materially from other cultivators, except in the teeth. These are formed of two pieces—a plate of cast steel being bolted firmly to a heavy cast iron shoulder or support. This steel plate is reversable,

so that when one end is worn away, it may be turned, and the other end forms another tooth as complete as new.

Michigan Sod and Subsoil Swivel Plough.—The increased attention which the merits of the Michigan Double or Sod and Subsoil Plow has attracted, has called forth the inventive genius of our Yankee agricultural brethren, and the result is a new double swivel plow, which appears to be admirably adapted to the purposes for which it is intended. The day has arrived when farmers are beginning to question the policy of the old system of plowing by lands. The unsightly appearance of fields thus plowed, the absolute loss of ground and labor, and the necessity of having the ground in a proper condition for mowing and reaping machines, all cry loudly for reform. This plow is one step in this desirable direction, and we shall be pleased to hear that upon trial it will serve the design of the ingenious inventor, Mr. Knox, of Boston. We cannot understand why some notice of this new plow was not made by the committee on plows.

Deep Tiller Steel Plows.—These beautiful plows are intended for working rich sticky soils. Being less porous than cast iron, the steel mould boards and points are susceptible of a higher polish, thus forming a plow of decidedly lighter draught in adhesive soils than the cast iron plow. They were beautifully finished, though not any better than all plows of this kind turned out from the establishment of the enterprising firm of Rugles, Nourse, Mason & Co.

Allen's New Reaper and Mower.—This is a combined machine, which has been practically tried during the past season and with marked success. It has all the appearance of a machine calculated to do good work, and we have no doubt that actual trial will prove that the combined machine of Mr. Allen is equally as good as the mower of his invention, so many of which were sold during the past season, and which, when properly made, gave entire satisfaction. The price of this machine in Philadelphia will be \$185. It was awarded a silver medal.

The Pennsylvania Reaper and Raker.—This is another new candidate for public favor in this section, although a great favorite in some parts of the west. It is remarkably simple in its construction, particularly the raking apparatus, which is attached to one of the arms of the reel. At first sight the practicability of raking off well with so simple an arrangement would be very apt to be questioned, but we are assured on the best authority that it performs admirably. The simplicity of this machine is not confined to the raker. In other respects it is equally simple and strong, and what is more, the price at which it can be furnished will commend it to the attention of the farming community. The price is \$120. It was awarded a premium of \$10.

Hallenback's Mower is a very simple machine, in regard to the merits of which there is a variety of opinions. Its principal merits appear to consist in the fact that it is operated by single cog gearing. We shall advise our readers of its merits more fully when we have had an opportunity of seeing it at work in the field.

Urney's Reaper and Mower, for which a premium of \$20 was awarded by the committee, may have merits of

a high order, but from a pretty careful inspection of its parts, we were not led to think very highly of it, nor have we been able to learn that it has ever been successfully tested in the field.

Hugett's Reaper and Mower.—This machine differs materially from any one exhibited in the peculiar construction of the cutting apparatus. It has a double set of knives, which operate upon the principle of a pair of shears. It is said to be a most excellent machine. Several practical judges have informed us that during the past season its success has been very marked. A premium awarded.

Hussey's and McCormick's Reapers on the ground, but as these veterans are sufficiently well known to require no further notice, we pass on to

Manning's North American Reaper and Mower, a machine which attracted as much attention as any other on the ground. Whether this marked notice is to be attributed to its merits, or to the novelty of its construction, we cannot say. The knives have a rotary motion, and are operated by small cog wheels and rope pulleys. The horse walks behind the knives, pushing the machine before him. We are not disposed to think the principle susceptible of practical application, the rotary motion in mowing machine knives having long since been laid aside as worthless.

Moss' Calf Suckler.—We were much pleased with this article, and think it will be highly useful. It is merely a tin vessel, holding perhaps five or six quarts of milk, at the bottom of which is attached an exact counterpart of a cow's bag and teat of Indian rubber. We tried it with the pressure of the hand, as in milking, and were surprised at the exact imitation of the milking process, which the inventor has succeeded in making. All that is necessary in raising a calf is merely to hang it on a hook in the stable or barnyard, fill it with the milk, or hay tea, &c., and let the calf go to it at pleasure. It will soon become accustomed to it, thus saving all trouble. The manner also of feeding by suction is more natural to the calf than drinking, and is more beneficial. The price of this useful little article is only about \$2 25.

We will continue further notices of new articles next month.

Book Notices.

Cowperthwaite, Desilver & Butler, of Philadelphia, have lately issued from their press a new work for farmers, entitled "The American Farmers' New and Universal Hand Book, or an improved and complete guide to the treatment of soils, the operations of productive field husbandry, kitchen gardening, dairy practice, fruit growing, management and diseases of animals, fowls and bees, culture of flowers, ornamental trees, &c., construction of farm buildings, grafting, budding, pruning, training, the great diseases of trees and plants, insects injurious to animals, fruit trees, grain, &c."

It is illustrated by over three hundred handsome engravings. We have looked over the work, and find it embodies a vast amount of information, much more on all these different subjects, and in more detail, than we had supposed practicable within the limits of a single volume. It is what it professes, "a plain, practical and

comprehensive detail of agricultural economy, in all its departments, throughout the United States and Canada." and as such worthy of a place on every farmers' shelf, as a book of reference on every thing within the scope of his business. Price \$1 50.

Talpa, or Chronicles of a Clay Farm, to which are added prize essays on Tile Draining.

This work is introduced to the public with notes by Lewis F. Allen, and is intended to convey to the American farmer an idea of the process, and how by a comparatively small outlay, swamps and bog land may be turned into productive fields. In England and Scotland this has been carried on on a systematic scale, by which products have at least been quadrupled, and lands comparatively worthless been made to equal in value the very best. Originally written for England, the American editor, Lewis F. Allen, has added notes and remarks which he thinks have adapted it to the "inquiring mind of the American."

North American Pomological Congress.

The proceedings of this body in their fourth biennial convention at Boston are crowded out this month by the reports of our State and County Fairs. They shall appear in our next.

To Correspondents and Others.

Owing to the official reports of the Committees of the Pennsylvania State Agricultural Society's Fair, we have been compelled to postpone the publication of several articles prepared for the present number, among which are notices of several County Society's Fairs, a valuable letter from our European correspondent, other communications, &c. We have also been compelled to omit several illustrations intended for this number.

Berks County Agricultural Exhibition.

The third annual exhibition of the Berks County Agricultural Society was held at Reading on the 4th, 5th and 6th of October. The fair grounds are immediately east of the city on the base of Penn's Mount, sufficiently elevated to command a beautiful panoramic view of the valley between the South and Blue mountains, some twenty-five miles in width, and for a considerable distance east and west. The buildings, like those of the Lehigh County Society, are permanent, and such as to afford ample protection to articles, stock, &c., placed on exhibition.

The display in general was excellent, and in the fruit department remarkably fine; such, indeed, as would have done honor to any Society in a far more favorable fruit year than the present, and exceeded, both in quantity and quality, that recently exhibited at the State Fair. The produce, floral, ladies', artists', and mechanical departments, were all well represented, and evinced much skill and taste in the exhibitors. A beautiful centre table top of Berks county, or all sorts marble, highly polished, received much commendation, but we regret to observe it did not receive the notice of a committee. This slab will compare favorably with the richest foreign marble employed for the same purpose.

A number of very fine horses were exhibited, but those that attracted most attention were "Lady Jane," a

young Morgan mare, owned by John H. Keim, which proved on trial to be the fleetest animal on the ground; "Joe Jewel," owned by Wm. L. De Borbon, and a grey family horse owned by Reuben E. Adams.

John A. Sheets exhibited a beautiful Durham Bull, 3½ years old, which was considered by good judges to be among the best of his class at the State Fair; John H. Keim, his Durham Bull, 2½ years old (this is a superior animal); D. Althouse and Joseph Wright, superior Devon Bulls; George M. Keim, an Alderney bull calf ten months old; and Joseph Hemig and Theodore Wiley, Native Bulls between one and two years old. Geo. M. Keim also exhibited some fine Alderney cows. Most of the cows marked Devon and Durham bore traces of other blood.

The swine were generally labeled "Chester and Berkshire," and while many of them were superior animals, they were coarser than the best samples of either of these breeds.

Our Berks county friends can certainly flatter themselves on the success of their Society.

Washington County Agricultural Exhibition.

The annual exhibition of the Washington County Agricultural Society was held in the town of Washington on the 20th and 21st days of September. The display, we are informed, was not so extensive as on some former years, but nevertheless highly creditable.

The first premium for the best "blooded horse" was awarded to Hayes & Morgan; best draught do., Robert Harper; best Durham bull, Philo Paul; best Durham cow, Robert England; best Devon bull, T. C. McKeever; best Devon cow, do. do.; best Grade cow, Jacob Morgan; best French Merino buck, Hugh W. Williamson; best French yearling do., Thomas Vance; best French ewes, Hugh W. Wilson; best French lambs, do. do.; best Merino buck, H. H. Clark; best do. ewes, Jas. G. Stream. But a small number of swine were exhibited, and of only medium quality. The produce and manufacturing departments were well represented, particularly those depending on the industry of the ladies

Union County Agricultural Exhibition.

The second annual Fair of the Union County Agricultural Society was held at Lewisburg, on the 5th and 6th of October. Owing to some feeling as to place of exhibition, a considerable portion of the county was unrepresented among the contributions, yet notwithstanding this it was highly creditable, and would have graced an older society.

From the stock of horses on exhibition—some of which were very fine—it is evident our Union county friends have given more attention to this animal than to neat cattle and swine. They are now awake to the importance of improvement in all branches of stock growing; and with the influence of the society and of the Farm Journal to stimulate exertion, we trust many years will not elapse before the Union county farmers will generally secure the most profitable breeds. Among the premiums awarded, we notice one to our friend Jacob Gundy for the best bull, also for the best cow—the latter making 13½ lbs of butter per week.

The display of fruit was particularly fine, so fine indeed

that one might suppose Union had escaped the frost and storm that left most parts of the state minus their usual crop. The produce department was well supplied, and the articles on exhibition generally of a superior quality. We trust that by another year our friends in Union will "pull together," and that the pride of place will induce them to enter the lists to a man to contest the prize of usefulness and excellence with other and older societies.

Mount Pleasant Fair.

A spirited Agricultural Exhibition was held at Mount Pleasant, Westmoreland County on the 3d and 4th ult.

A large number of neat cattle, sheep, hogs, &c &c together with Agricultural and Horticultural productions, implements, domestic manufactures, were exhibited. John Thomas, and James Torrence, took the premiums for best horses; W. Reynolds, best Durham cow and John Giffen for best Durham heifer; S. Neel, for best French Merino buck; W. Reynolds for best Southdown do.

Best wheat, Cherry & Voigt; best Mediterranean wheat, Samuel Warden; best corn, S. M. Oberholt

Monongahela Valley Agricultural Fair.

The second annual exhibition of the Monongahela Valley Agricultural Society was held in Monongahela city on the 28th 29th days of September. All accounts which have reached us speak of it in the highest terms.

The features, common in some portions of the west, of ladies competing for the premiums awarded to the best riders and drivers, drew many spectators to the ring, who were highly delighted at the display of horsemanship, if we may use the term, by several lady contestants. Our friend Hazzard of the Monongahela Republican, speaking of the performance of one lady says "it was skilfull, tasteful, fearful. The concourse of people were almost breathless as she shot around the ring with her iron nerved horse. There was a wildness, a recklessness, a skillfulness, in her riding that baffles all description."

Among the horses exhibited were two Morgans, one belonging to James Torrence, of Alleghany, and the other was from Brownsville, Fayette co., but the name of the owner we have not learned. The first premium was awarded to "English Archy," a very fine horse belonging to Gilmore & Co, Fayette co. There were no less than forty premiums awarded for various classes and varieties of horses.

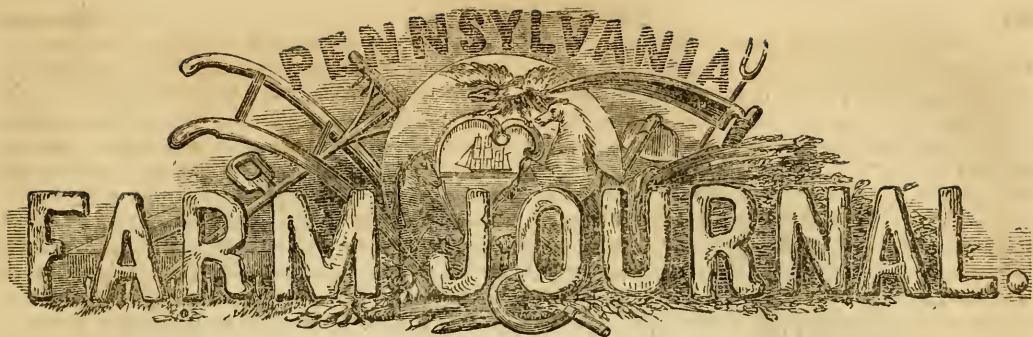
W. Halman received the first premium for a Durham bull, and also for the best Durham cow; D. Rail for best French Merino buck; J. M. Gallaher, best French Merino lambs; J. Harper best Merino lambs; do do ewes.

There were a large number of premiums awarded, on all the articles usually competed for at Agricultural fairs.

From the energy with which we happen to know the affairs of this society are conducted, we auger the happiest results.

Fine Sweet Potatoes.

Our friend Caleb Strode recently presented us, or rather one of us, with some sweet potatoes of his own raising, which proved upon "eating" to be fully equal to the best brought from Jersey. They were large, smooth, and had a most delicious flavor.



PENNSYLVANIA FARM JOURNAL.

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To Our Friends.

This number closes the fourth volume of the Farm Journal—the most successful, and we think the best that has yet appeared. In taking a careful retrospective view of this volume, we are happy to be able to say, that we believe we have fulfilled every stipulation and promise made in our prospectus, and that it has met our expectations with a single exception—our subscription list has not reached the point we had supposed it would ere this have done, and which we still hope it will attain on the opening of the next volume. Although the number of our subscribers is not so large as we could wish, and as we trust it shortly will be, we still have great reason to be thankful to our friends in different parts of the State, many of whom have placed us under lasting obligations by their kind efforts and substantial patronage. We are conscious that the only return we can ever make to most of these, is to endeavor to merit their good offices by rendering the Journal all they could desire it to be; and this we are determined to do. We shall leave no stone unturned—no labor unperformed, calculated to advance the interest, or promote the prosperity of our patrons. We shall hesitate at no expense, which circumstances will warrant us in incurring, necessary to enhance the usefulness of the Farm Journal, or to render it the very best publication of its class, in the United States. As an index to the future, we beg to point to the numbers for the year now closing.

The next volume of the Farm Journal, if we are not greatly mistaken, will commence under far better auspices than any which preceded it. Circumstances having a tendency to impair the usefulness of the Journal, in its early stages, now no longer exist; it has worked its way to the homes and hearts of the leading farmers in this and adjoining states; and it is rapidly becoming the *vade mecum* of every intelligent agriculturist from the Hudson to the Potomac. It is no longer a weakly plant struggling for subsistence amid weeds of older growth. Indigenous to the soil wheron it is produced, it has taken a firm hold, and is rapidly replacing others, tolerated only in the absence of something better. It may even now boast an acquaintance with nearly every post office in Pennsylvania and Delaware; and a little exertion by our friends would enable us to send five and ten copies to hundreds of offices, where we now send but one or two.

We hope to double our present circulation within the next three months. Should we be able to do this, our means for still further improving the Journal will be proportionally increased. May we not, therefore, ask our

friends, one and all, to speak a good word for us to such as are unacquainted with the Journal;—to forward us their own and their neighbors names for the coming volume? We respectfully ask each of our subscribers to consider himself an agent, and to use his influence to obtain a small club of subscribers. We have made the most ample arrangements for booking names and mailing Journals hereafter, so that, though they should pour in upon us at the rate of a thousand a day, we are prepared to return receipts and send out the number by return mail.

It may be proper for us to say here, that the cash system having met the approbation of our friends almost unanimously, and having found it far preferable in every respect to the plan of sending the Journal out on credit, we shall strictly adhere to it. Our friends can rest assured the Journal will not be sent to subscribers after the expiration of the period paid for, unless it be a complimentary copy for which no charge is ever made. Every subscriber knows the time his subscription will expire, and in giving his name for one volume, he can rest satisfied that he will have no trouble in having it discontinued at the end of time paid for, as that will, follow as a matter of course, unless he shall renew his subscription. We have had enough of the credit system to last an ordinary life time, and if we shall be able to collect the amounts remaining due for volumes 1, 2, and 3, (published, unfortunately, on the credit system,) without being compelled to institute proceedings, or to expose the names of some persons who were willing to read these volumes of the Journal, but seem unwilling to pay for them, we shall be content.

Again we say to our friends give us a helping hand, send us on your own and your neighbor's subscription for the next volume, and rest assured, you will receive our lasting gratitude for your kindness.

Cold Graperies.

One of the most valuable appendages to a country residence, and which yields a speedy and most luxurious return for the outlay, is a cold graperie. This is simply a frame building, with either a span or lean-to glass roof, for the cultivation, without heat, of such varieties of grapes as are not perfectly hardy out of doors. The construction is very simple, being for a lean-to house merely a double frame, two feet in front and twelve feet high at back, nailed to substantial posts set in the ground from three to three and a half feet, with the intervening space filled with tan closely rammed down. The width should

be sixteen feet, admitting of two lengths of sash. Such a house is estimated to cost not more than \$8 per running foot.

It may not be generally remembered that most of the splendid bunches, which grace the fall exhibitions of our Horticultural Societies, particularly in the cities, are grown with trifling expense in houses of this description. At the late State Fair, bunches were exhibited by David S. Brown, from his graperies in Delaware County, four of which weighed 25 lbs. 2 oz. One bunch with every grape perfect and large, weighed 6 lbs. 12 oz. H. U. S. Cleaveland, Burlington N. J. for several years successively carried off the premiums of the Philadelphia Horticultural Society, for his fine black Hamburg grapes also grown in a house without heat. Indeed, we are satisfied, independent of the luxury of such a dessert for one's own table, they may be made a source of great profit. Mr. Cleaveland's graperies, which we have visited, was a very simple affair, formerly used for propagating Multicaulus, but he had a fine, deeply dug, well prepared border outside, twenty feet wide. His grapes were always sold beforehand to one establishment in Chesnut street, Philadelphia, at fully remunerating prices and the demand was always greater than the supply. It is a matter of some account at least, for a farmer to save time in his marketing. A crop he has merely to deliver at one place and receive his pay, without waiting for customers, in a market house exposed often to inclement weather, has certainly one great recommendation over ordinary and more bulky farm produce. A cold graperies 100 feet long, at \$8 per foot, would cost \$800, the interest of which is \$48. We believe a net interest of twenty per cent would be obtained by erecting a cold graperies, instead of putting the money out on mortgage, as our farmers generally do with their surplus cash at the end of the year. The attention required would be but very slight, and such as could readily be performed by the females of the family.

So accustomed are we to an unvarying rotation of corn, oats, wheat, potatoes, that we have but little expectation our hints will be acted on to much extent by our agricultural friends; still we do not fear, to recommend, to hundreds, of our readers in the country to build a cold graperies both as a source of pleasure and profit. We have made the suggestion, and we hope at least they will think of it, and reflect upon it. The varieties we recommend for this purpose are black Hamburg, white and grizzly Frontignan, and golden Chasselas; but the black Hamburg most especially. As regards the routine of culture Downing says:

"In a vinery without heat this is comparatively simple. As soon as the vines commence swelling their buds in the spring, they should be carefully washed with mild soap suds, to free them from any insects, soften the wood and assist the buds to swell regularly. At least three or four times every week they should be well syringed with water, which, when the weather is cool should always be done in the morning. And every day the vine border should be duly supplied with water. During the time when the vines are in blossom, and while the fruit is setting, all sprinkling or syringing over the leaves must be suspended, and the house should be kept a little more closed and warm than usual, and should any indications

of mildew appear on any of the branches it may at once be checked by dusting them with flower of sulphur. Air must be given liberally every day when the temperature rises in the house, beginning by sliding down the top sashes a little in the morning, more at mid-day, and then gradually closing them in the same manner. To guard against the sudden changes of temperature out of doors, and at the same time to keep up as moist and warm a state of the atmosphere within the vinery as is consistent with pretty free admission of the air during sun shine, is the great object of culture in a vinery of this kind."

Notices of New Articles at the Late State Fair.

[Continued from page 357.]

Patent Angular Hames.—These really beautiful and ingeniously constructed hames were awarded a diploma. They are made upon strictly scientific principles, and it is claimed by the inventor that the angles upon which the patent was obtained are so constructed as to throw the draught entirely upon the muscles of the horse's shoulder, where a wise creator has placed his greatest strength. There are fourteen different sizes ranging from the heavy Pennsylvania team hame to the lightest required for gig or carriage purposes. Finished in a very superior manner, light, neat and durable, their introduction to general use appears to be a necessary consequence.

Rochester Hay, Straw and Fodder Cutter.—The crowds which surrounded the operator of this machine during the continuance of the fair evinced the interest and pleasure taken with its performances. It cuts hay, straw or fodder equally well, and with great rapidity, having a heavy fly wheel and three sets of cogs. It is a self-feeder by means of a cast iron roller, and the principle of cutting is that of a pair of shears, the knife on the cylinder, set at a given angle, coming in contact with a bed plate. The exhibitor received orders for a large number, which have since been delivered, and we understand given satisfaction. They appear to be well and strongly made. Price \$15.

Daniel's Hay, Straw and Fodder Cutter.—To our mind this appears to be the ne plus ultra of cutters, combining as it does the qualities of an excellent cutter for either hay, straw or fodder, in a greater degree, as it struck us, than any one on the ground. Simple in principle, constructed in the most durable manner, easily kept in order, and not high in price, considering the amount of work it will perform, we think it can be recommended with confidence. A year or two since, Daniel's cutter was brought into some disrepute by some sent into market from a manufacturer in New York very imperfectly made, and indeed almost worthless—a circumstance not very unusual with implements from that section, and which prevents many from being sold. We understand, however, that now the proprietor himself is the sole manufacturer. The price is \$25 for such as are adapted for hand or horse power, and \$50 for the largest power machine.

Whittemore's Uncle Sam Vegetable Cutter.—This implement is simple and might be made to answer a good purpose at a cheap rate, but the manufacturers must improve vastly in the quality of their work before they

will ever succeed well with it. The Cylindrical Root Cutter, built by Ruggles, Nourse & Mason, is the best, and we believe the only one in use that answers the purpose fully. With it a bushel of turnips may be sliced or cut into sizes fit for feeding in one minute.

Among the smaller implements with which the hall devoted to farm implements was filled, we were forcibly struck with the remarkably well finished forks, spades, shovels, hoes, &c., many of which were finished in a style of excellence sufficient to fit them for parlor ornaments instead of the rough purposes of the farm. We particularly noticed a case of *Seythe Snathes*, manufactured by Lanson, Goodenow & Co., which exceeded any thing we had ever seen. There were six different kinds, each excellent, and combining all the valuable improvements in this important department of farming tools.

Kimball's Improved Patent Shovels and Spades.—The manufacture of these has been greatly improved upon recently, those on exhibition being finished in a very superior manner. A strong strap is substituted for the old fashioned socket for fastening the blade to the handle. Kimball's shovels are rapidly gaining favor with our farmer friends, and are warranted by the manufacturers fully equal to any in use.

Tuttle Hoes.—Of these superior and generally used hoes quite a large display was made, a number of them finished in the highest style of workmanship. The old adage that "good wine needs no bush," may very appropriately be applied to these excellent tools.

Wooden Shaking or Straw Forks.—Some of these were very superior. They were made in Chester county, and partook of all the excellence and beauty of finish of all the articles above named.

Reynold's Hay Forks, Batchelder's Hay and Straw Forks, Morse's Manure Forks, and the Hay Manure Forks of Sheble & Lawson, to which the first premium was awarded, were all of them got up in fine style, and can be confidently recommended to the attention of those desirous of purchasing really good articles.

Apples for Hogs.

Some of our distant northern and western exchanges are still discussing the "value of apples as a food for hogs." In most parts of this State, the *people* are discussing their value as a luxury for themselves. Some believing three shillings a half peck too much to pay even for a good thing. Perhaps in another year we, too, may be willing to think of their value as a food for hogs, but just now the idea is ludicrous.

The Jennetting Apple.

Micajah Burnett, of the United Society of Shakers, Pleasant Hill, Mercer county, Kentucky, states in the last volume of the Patent Office Reports, "that the Jen-netting is a most important variety. The tree grows with usual thrift, and is nearly three weeks later in blooming than all others we have made trial of, and thus escapes the late frosts." Among the varieties he enumerates as grown by the Society are the Queen, Rambo, Fall Pippin, Spitzenburg and Belle-fleur. As the late frosts in spring frequently destroy all hopes of a crop of the usual varieties of apples, the importance of obtain-

ing "Jennetting" grafts must be apparent to all; and we therefore take the liberty of calling the attention of nurserymen and others to the subject. We shall endeavor to obtain further information in relation to this apple for the benefit of our readers.

Wintering Stock.

MR. DARLINGTON:—We have sacred authority for saying that "the righteous man is merciful unto his beasts." If this be true, (and who can doubt it?) I fear there are few among us who will be reprieved for their "righteousness sake." In fact the text is universally disregarded, and those making the strongest professions of piety amongst us base their pretensions on other grounds. As this is the season when the poor brutes usually suffer most, I beg to ask your permission to endeavor to arrest, in a small degree, the attention of one class of the public to some of the merciless practices they sanction or permit.

Let us take this cold, wet winter's morning to visit my neighbor A. B., and his live stock. He is a good neighbor, a good citizen, and esteemed a good Christian. We find him in his barn-yard feeding his steers, young cattle and dry cows, with corn fodder. There is a shed along a part of one side of the yard, where a few sheaves have been thrown, and where the stronger portion of the steers have taken exclusive possession; the stronger portion of the remainder are crowding about their owner as he trudges on with his fodder, and every now and then receiving a kick from his heavy boots on the head or abdomen, to teach that *fear* should ever overcome hunger, how urgent soever the latter may be; while the others, helpless and hopeless, are standing with their backs bowed, and their bodies shrunk to the smallest compass, shivering with the cold and wet. After a time the food is so scattered that these poor creatures can get enough to keep life and carcase together, but not enough to keep them in a thriving condition.

We turn with a shudder from these poor brutes, as we think of the misery they are suffering, and the yet greater misery they will have to endure, when snow and slush are added to their discomforts. We next enter the cow stable, and here we find the opposite system to prevail. The cows are packed as closely as possible, the windows have been carefully closed to exclude the fresh air, the manure has been suffered to accumulate for several days, and notwithstanding the "litter," the hind quarters of the cows when lying are really imbedded in their own excrement. From the hoof to the hip it is a mass of dried dung. The air of the stable has been breathed over and over again, and is so mingled with the odors of the fœtid mass that it is absolutely sickening. Yet in this place Mr. A. confines his cows fifteen or eighteen hours out of twenty-four.

We will next enter the horse stable, which, although not quite as bad as the cow stable, is obnoxious to the same objections. The noble animals, well fed and well curried as they may be, cannot bid defiance to one of the fundamental laws of health—pure air. An ammoniated atmosphere, and a bed of their own excrement, is as unfitted for them as for their master. So it is throughout.

Even the dog, the most faithful animal in his service,

the guardian of his house, comes in for a share of his barbarity. Denied admission within, with no shelter provided without, he lies on the door sill, where "he shivers the midnight hours away."

This picture, Mr. Editor, will stand for a vast majority of the farmers in this State, excepting only the "professed piety" of the original. Its chief defects are in the faintness with which the lines are drawn; and as the attribute of "mercy" has not heretofore, and probably will not hereafter, be enabled to produce a reform, I propose, with your permission, to consider in your next number the *absolute loss* my neighbor suffers from his failure to keep an eye to the *comfort and health* of his stock. Should I be able to state the facts as they exist, Mr. A. may perhaps be induced to add *mercy* to his other virtues.

P.

A Word to Supervisors.

MR. DARINGTON:—In this section of the country it is customary to have a general road mending in the spring immediately after corn planting. The ditches are then opened, the gullies filled up, and the highways placed in a reasonably good condition. But unfortunately this mending is usually expected to last throughout the year regardless of situations, travel, or rain. If the road is at all passable it is tolerated.

Observation and reflection having convinced me that this practice was, in many cases, both expensive and reprehensible, I tried to induce our supervisors to adopt the plan of *keeping the drains always open*, but failed; as they could not be convinced that it would not cost more to go over the roads twice than once, or that it was the *amount* of labor expended and not the *number* of times it was called into service that caused the expense. Failing, as I have said, in this, I prevailed upon them to allow me to mend the road running through my farm—some three-quarters of a mile in length. This strip of road, partly owing to the nature of the ground and partly to its location, was liable to wash; and between gullies cut and stones laid bare, it might be usually denominated a "bad road." On this piece of road, some fifteen or twenty dollars were expended every spring to place it in a reasonably good condition. When I took charge of it, nearly two years ago, my first effort was to make the ditches on one side, which received the washings of a large tract, *wide*, not deep, but of sufficient capacity to carry off all the water likely to come into them. I made the crossings likewise capacious, so as to carry across all the water and prevent it from flowing along the wagon routes in the middle of the road. This gave me dirt enough to raise the middle of the road sufficiently. The expense of this work considerably exceeded the sum I was authorized by the supervisor to make, but as I felt some pride in having a good road passing my property instead of a bad one, I did not hesitate to bear the balance myself.

Now for the result. The road remained good—first-rate—throughout the summer and fall; but as I had expected the ditches and drains now required some attention, or the probabilities were that parts of the road might be overflowed by the winter rains. I accordingly again dressed them up. The amount of labor required to do this was trifling.

As I had kept the road so good, I was delegated in the following spring to take charge of it again. With less than one-third the labor previously required the damages of the winter were repaired, and now when six months more have elapsed scarcely any work is needed; and the probabilities are that five dollars, annually appropriated to keep the ditches and drains open, will be all that is sufficient to maintain a first-rate road, where more than thrice that amount, expended as is customary, would only perpetuate a bad one.

J. W.

Cumberland co., Nov. 18, 1854.

Compost.

MR. DARLINGTON:—Guano, superphosphate, and other excellent manures are not within the reach of the greater number of farmers in this State, and the manure heap, even when well taken care of, is usually too small to supply all the wants of the land. To all such, and many others, composting would be highly serviceable, and as there is now plenty of time to gather together the materials of a compost heap, a hint on that subject may be beneficial to the readers of your Journal.

Any ingredient containing a fertilizing principle may with advantage enter the compost heap, such as swamp muck, sods and soil from the road side and fence rows, wood mould, leaves, ashes, &c., &c. I have made from fifty to seventy-five loads of valuable compost each winter for several years past of the following materials:—1st. A layer of sods and soil from the side of the road, or fence rows, to say six inches thick; 2d. A layer of stable manure, say two inches thick; 3d. A layer of woods earth, six inches thick; 4th. All the night soil I could collect; 5th. A bushel of plaster for every fifteen loads of compost; 6th. Another layer of sods and woods earth; 7th. All the refuse wood and coal ashes I could collect. After the lapse of a few weeks, I incorporate the whole together, mixing thoroughly, and spread a little more plaster over the heap when I am done. By the time corn planting arrives, the heap will be ready for use, and is then nearly as valuable as an equal bulk of barnyard manure. The heap should not be too far distant from the wash-house, so that all the suds may be poured over it.

S. J. P.

Delaware co., Pa., 11th mo. 18th, 1854.

Committees at Exhibitions.

MR. EDITOR:—Having been a pretty regular attendant during the late Exhibition of the State Society, I was forcibly struck with the arduous duties of the various committees, and could not fail to perceive, that (although entirely unintended on their part,) they necessarily slighted the claims of many worthy exhibitors. This was particularly the case in the agricultural implement department, where the display was perhaps the finest ever made in the United States, comprising a sufficient number of new and valuable implements to have employed a dozen committees for a week, instead of three for one day, or at farthest two. For instance committee 18th class 5, were called to decide upon the merits of some *twenty five different kinds* of farm implements, and perhaps a dozen competitors for each article enumerated in the premium schedule. Is it not simply absurd to suppose that three men, (surrounded as committees generally are

with a crowd and in the midst of all the excitement of a great exhibition) can approximate to any thing like a correct conclusion in regard to the merits of the multitude of articles they are called upon to examine. Were they possessed of the most thorough knowledge of the different implements—had they had an opportunity of practically testing the value of each, it were asking too much to expect them under such unfavorable circumstances to pronounce with the correctness that should characterise all committee reports, which is best entitled to the approbation of the society in the form of awards of premiums &c. While it is only strict justice to presume and believe that the gentlemen who consent to discharge the unenviable duties of committee men, do so with rigid impartiality, it is very clear that their honest intentions are too frequently defeated by the unfavorable circumstances which surround them. Do you not think that a committee would have a sufficiently onerous duty to perform, if in the brief space of time allotted for the discharge of their duties, they should give their whole time and attention to the investigation of the merits of the twenty or thirty different kinds of hay straw and fodder cutters, which are generally exhibited at State Fairs; of how much more value both to exhibitors and the public then examinations and awards would be. The same might be said of corn shellers. A committee would have their hands full enough in examining this important branch of the implement department. There should be a committee for reaping and mowing machines, another for grain fans and seed separators, a third for smaller harvesting implements, and in fact the duties of the three or four committees on implements might very appropriately be divided amongst at least a dozen different committees. If it be urged as an objection to increasing the number of committee that they cannot readily be filled, I answer that if the duties of committees are narrowed down to a particular class of implements, and those who are appointed made aware of the fact that instead of being compelled to drag through a wearisome and unsatisfactory examination of twenty or thirty different kinds of implements, their attention need be directed to one particular kind, many men would willingly serve on committee who now shrink alarmed at the very thought of the task before them.

Instead of murmurings and discontent so frequently manifest on the part of exhibitors, a much better feeling would prevail, disappointed competitors could find no reasonable ground of complaint, because, (presuming always that the decision of the committees are impartial) they will have had an ample opportunity of displaying and explaining the good qualities of their respective articles, and could not fail to feel convinced that there were others of a superior character on exhibition. Besides, this, the premiums of the society would then have some value in the eye of the public. At present they are regarded as of little value and mainly because of the reasons I have assigned. I have attended all of our State Fairs, and in many instances been surprised at the decisions of committees. I have seen first premiums awarded to implements which were comparatively valueless, and yet I have not the slightest doubt that the committee acted as they supposed in the strictest accordance with their honest impression.

It should always be borne in mind that when inventors and manufacturers exhibit their articles, they generally select such persons to explain them as are possessed of the "gift of gab" and who by previous preparation are very well calculated to deceive and mislead a committee. I have seen modest men, whose powers of explanation were completely paralysed as soon as a committee asked them to describe their wares, and from the fact that mere verbal explanations too are often all the evidences a committee has time to receive, these men have lost the award which would certainly have been theirs, could they have had an opportunity of practically exhibiting the value of their implements.

I trust that these evils will be remedied hereafter, and that the duties of committees will be so divided as to permit them to devote to each particular class the time and attention which it deserves. OBSERVER.

The Old Farmer's Elegy.

BY JOSIAH T. CANNING.

J. L. DARLINGTON, Esq.—My Dear Sir:—In reading the enclosed lines how is one reminded of the many who now rest in peace beneath the turf, at West Chester and Birmingham, with no memorial but the grass upon their graves, unless it be the still prevailing influence of their many virtues.

I hope they may prove acceptable to the many readers of the Farm Journal, whose acknowledged interest and usefulness is advanced by every new issue.

Your friend and serv't,

and constant reader,

Philadelphia, Oct. 20th, 1854.

W. H. D.

On a green grassy knoll, by the banks of the brook,
That so long and so often has watered his flock,
The old farmer rests in his long and last sleep,
While the waters a low, lapsing lullaby keep.
He has ploughed his last furrow, has reaped his last grain,
No morn shall awake him to labour again.

Yon tree that with fragrance is filling the air,
So rich with its blossoms, so thrifty and fair,
By his own hand was planted; and well did he say,
It would live when its planter had mouldered away.
He has ploughed his last furrow, has reaped his last grain,
No morn shall awake him to labour again.

There's the well that he dug, with its waters so cold,
With its wet dripping bucket, so mossy and old,
No more from its depths by the patriarch drawn,
For "the pitcher is broken," the old man is gone.
He has ploughed his last furrow, has reaped his last grain,
No morn shall awake him to labour again.

'Twas a gloom-giving day when the old farmer died;
The stout-hearted mourned, the affectionate cried;
And the prayers of the just for his rest did ascend,
For they all lost a brother, a man, and a friend.
He has ploughed his last furrow, has reaped his last grain,
No morn shall awake him to labour again.

For upright and honest the old farmer was;
His God he revered, he respected the laws;
Though fearless he lived, he has gone where his worth
Will outshine like pure gold all the dross of the earth.
He has ploughed his last furrow, has reaped his last grain,
No morn shall awake him to labour again.

Moles.

To the Editors of the Pennsylvania Farm Journal:—Permit me through the columns of your excellent Journal to make some inquiries of my brother farmers as to the best method of destroying the common mole. A large portion of my farm is completely undermined with moles, especially the two fields in which I contemplate planting corn next

season, and I entertain fears lest a large part of my crop may be destroyed or greatly injured by their depredations. I have frequently thought of preparing some corn with poison and then making a small hole in the raised earth, drop a few grains in a place about over the field, but I am at a loss to know what to use as the best destroyer. I have kept two traps set all the preceding summer and have caught forty-one in various ways. One of my neighbors tells me his boy has caught thirty-seven in one track without ever moving the trap. I trust some one of the subscribers or rather readers of your widely circulated journal will have discovered some remedy ere this, and if so will no doubt be happy to communicate the same to others.

Yours truly, JNO. KELSEY.
Prospect Farm, near Yardleyville, Nov. 4th, 1854.

For the Farm Journal.

The True Art of Feeding Animals.

BY J. S. HOUGHTON, M. D.

Much assistance in the art of feeding animals, whether for work, for beef, or for dairy purposes, may be obtained from a careful study of the recent developments in organic chemistry.

I have noticed in the agricultural papers frequent accounts of experiments in feeding, which failed entirely in consequence of ignorance of the most simple principles of animal chemistry and physiology. Thus one writer, lately, denounces carrots and turnips as useless food for milch cows, because, while feeding them, with hay, the milk and butter did not increase but rather declined; and the writer states that he then grew onions in place of carrots, sold the onions, and with the money bought wheat bran, which had a better effect when fed to his cows as slop, increasing the quantity of butter immediately to a very satisfactory amount.

The difficulty in this experiment was this: not that the carrots were unsuited to milch cows, but they were not, even with hay, a *complete food*, or not well adapted to produce butter. The carrot, of course, contains a large proportion of water, a good deal of sugar, and considerable nutritive or flesh-forming substance, but not much oil, or fatty matter. To make butter in large quantity, with certainty, some food should be used containing oil, and this may, of course, be found in corn or linseed meal, or in wheat bran. The hull or bran of all grains contains much more oil, in proportion to its weight, than the interior substance. It is consequently more fattening, and will produce more butter than the same weight of whole grain.

Food is now divided by chemists into the flesh-forming, or nutritious, and the fattening, or breathing food; and by understanding clearly the meaning of these terms, much light may be thrown upon the art of feeding animals and men. Let us try and explain this subject to those who are not familiar with it.

When an animal, or a man, moves or labors, he breaks up his muscle, or the solid parts of his flesh, (the red meat, so to speak, as you see it in a piece of beef,) and throws off from his body, through various channels of excretion, a material called nitrogen in chemistry (the same thing essentially as ammonia), which is the important principle in all solid flesh, in the white of egg, in the solid part of the oyster, in the curd of milk, and in the nutritious part of the pea, cabbage, &c. I purposely omit scientific details in this description, so as not to confuse the general reader, and sacrifice strict accuracy to simplicity. A working man, or working animal, therefore, needs, to supply the waste of his muscles by labor, an adequate proportion of nutritious food, or that which contains nitrogen (ammonia), the chief element of flesh, eggs, oysters, &c.

But during labor the animal, or man, also breathes, and during the act of breathing important chemical changes go on in his lungs, and large quantities of fat, or its equivalent, such as starch, sugar, gum, oil, &c., are consumed, just as oil is consumed in a lamp by a process analogous to combustion, by which the body is heated, the blood is purified of excess of lifeless matter, and other important results are produced in the animal body. Hence the demand for the so-called fattening or breathing food to supply the consumption of this material by the lungs, which is much greater in cold weather, and out of doors, than it is in warm weather, or in a warm room.

Now, with these principles before us, we have only to inquire into the constituents of the articles used as food to be able to adapt them, with a good deal of certainty, to the object we may have in view in feeding animals.

If we have a working animal, we must give him nitrogenized or nutritious food in large proportion, not neglecting, however, an adequate supply of breathing food to keep him sufficiently fat and warm.

If we desire to fatten an animal, then the carbonaceous, oily or fattening food must be used more freely, and less of the flesh-forming or highly nutritious food will answer.

If milk, and not butter, be the object, then watery food, not too highly nutritious or too oily, is to be desired, being careful to secure that which is slightly stimulating, and properly supplied with phosphoric acid, or phosphate of lime.

For butter, watery, somewhat nutritious and very highly carbonized, or oily food, should be used, that which contains much starch, sugar, gum, oil, &c.

To make cheese, nutritious food, such as beans, peas, cabbage, good hay, with some roots and corn meal, should be sought, or, in other words, those articles of food which contain in the greatest abundance, vegetable albumen, casein or curd, the nitrogenized or flesh-making principle.

If a person, not familiar with chemistry, should ask how he is to ascertain the character and qualities of all articles employed as food for animals and men, without learning the whole science, I answer that numerous works furnish analyses of such substances, but no single work more fully than "Pereira's Treatise on Food and Diet," an edition of which was published by Fowlers & Wells, of New York, at fifty cents in paper covers, or seventy-five cents in cloth. Dr. Pereira is a standard writer on such subjects, and reliable authority.

"Are turnips good for pigs?" inquires one writer in a late agricultural paper. One person says yes—another no. "Are beans good for horses?" is the question put forth by another correspondent, and the same contradictory answers are given by different persons. The simple truth is, turnips are good for pigs and beans are good for horses, but not alone, or unmixed with other food. Neither turnips nor beans are fattening; they are highly nutritious, and beans particularly are well suited to working animals, but require corn meal, oats or other grains to supply the loss of carbon by the lungs, and of phosphoric acid from the bones and brain.

Carrots and oats, or carrots and wheat bran, or beans and corn meal, would be good food for horses, with hay. Turnips and corn meal, or turnips and shorts, would be suitable feed for pigs. Carrots and corn meal, or carrots and oil cake, with hay, would be complete food for milch cows.

Men, in feeding themselves, are led by a sort of natural instinct or craving to select food well adapted to their wants. Thus fat pork and cabbage form a favorite dish of the working classes, a combination of aliment well adapted to their necessities, furnishing in the cabbage the nutritious or flesh-forming substance (nitrogen), and in the oily pork the car-

bonaceous or breathing food. People who do not work much, or breathe much in the open air, cannot relish pork and cabbage, and to some persons who lead idle lives within doors the very odor of this dish, so attractive to the laborer, is positively disgusting.

Wheat bread and butter, with tea, furnish a complete and satisfactory food for persons who do not labor; milk, or bread and milk, also form a perfect aliment for children who exert themselves only in play. Fat beef or mutton is a complete food for even laboring men, as it affords nitrogen and carbon in due proportion.

There is another well known principle which it is desirable to bear in mind, it is this: that *bulk* of food, as well as nitrogen and carbon, is necessary to keep all animals and men in a state of health. Too much concentrated food in small bulk, however well adapted to effect the object in view, will not answer so well as the same nutriment and carbon combined with some bulky innutritious matter. A story is told of two horses on board a ship, which were fed equally upon oats, without hay; one of them had access to a pile of shingles, which he gnawed freely, and endured a long voyage in good health; the other had no woody fibre or other coarse material to eat, and died in consequence.

An animal may, of course, be fattened more speedily and cheaply in a warm season, or in a warm room, than when the air is colder and more condensed, and when more food is consumed by the lungs to keep up the heat of the body; for, in a warm atmosphere, this food would be more freely deposited in the body of the animal as fat, and not so largely burnt off by combustion in the lungs. Hence, too, men going to a warm climate are advised by physicians to use little fat meat and corn bread, which are highly carbonaceous, as they supply too much of the elements of bile to the system in such climates, and have a direct tendency to produce liver complaint, bilious disorder and fever.

The subject here presented is one of great interest and importance, and demands more extended consideration than we can give it in this article. We only open it to the reader, and hope at least to make him see (if he has not observed it before) that food for animals and men should be properly mixed, and scientifically adapted to climate, habits of life, and the various objects of feeding, and that no single vegetable substance, scarcely, can be a complete food under all circumstances for horses, pigs, cows, or men.

Philadelphia, November, 1854.

National Agriculture.

The total value of the annual products of the soil of the United States is now about One Thousand Millions of Dollars; and no one who knows what science *has done* for Agriculture, will doubt that the same amount of labor which is now employed in producing this aggregate, might be so applied as to secure a total product thirty per cent. greater, or One Thousand Three Hundred Millions. But scientific, skillful, thorough Agriculture always employs more than the shiftless, slovenly sort too generally prevalent; and it is certainly within bounds to estimate that our Agriculture might be so improved as, by the help of additional labor now unemployed and unproductive, to give an additional product of fifty per cent., or Five Hundred Millions per annum—an achievement which would double the wealth of the country every eight or ten years. Whosoever will carefully review the Agriculture of a single state, or even an average County, in any part of the Union, and estimate how much its product might be enhanced by irrigation, manuring, deep plowing, draining, &c., will perceive that our calculation is far within the truth.

But suppose that only half of it, or an addition to our na-

tional wealth would thereby be insured! Four-fifths of this would probably be permanently added to the wealth of the country—that is, the farmer whose annual product should be swelled from \$1,000 to \$1,250, or from \$2,000 to \$2,500, would not eat or drink up the surplus, but would invest the greater part of it in new buildings, fences, barns, implements, furniture, &c., &c., giving profitable employment to mechanics and laborers, and largely increasing the business of merchants and the incomes of professional men. Such an addition to the annual product of our Agriculture would increase the consumption of Manufactures, domestic and imported, in far greater ratio, since from the annual product of every farm the food of those making a living on it must first be taken for home use, affording no business or profit to any one else, leaving only the surplus to form the staple of trade; and an addition of twenty-five per cent. to the annual product of each farm would probably double the annual exchanges and general trade of the country.—*N. Y. Tribune.*

Soils and their Improvement.

Waring, in his "Elements of Agriculture," makes the following common sense remarks relative to soils and their improvement:—"Chemical analysis will tell us the composition of a soil, and an examination, such as any farmer may make, will inform us of its deficiencies in mechanical character, and we may at once resort to the proper means to secure fertility. In some instances the soil may contain every thing that is required, but not in the necessary condition. For instance, in some parts of Massachusetts, there are nearly barren soils which show by analysis precisely the same chemical composition as the soil of the Miami valley of Ohio, one of the most fertile in the world. The cause of this great difference in their agricultural capabilities, is that the Miami soil has its particles finely pulverised; while in the Massachusetts soil the ingredients are combined within particles (such as pebbles, etc.), where they are out of the reach of roots.

In other cases, we find two soils, which are equally well pulverized, and which appear to be of the same character, having very different power to support crops. Chemical analysis will show in these instances of a difference or composition.

All of these differences may be overcome by the use of the proper means. Sometimes it could be done at an expense which would be justified by the result; and, at others, it might require too large an outlay to be profitable. It becomes a question of economy, not of ability, and science is able to estimate the cost.

Soil cannot be cultivated understandingly until it has been subjected to such an examination as will tell us exactly what is necessary to render it fertile. Even after fertility is perfectly restored, it requires thought and care to maintain it. The ingredients of the soil must be returned in the form of manures as largely as they are removed by the crop, or the supply will eventually become too small for the purposes of vegetation."

Address of Gen. George May Keim,

Before the Schuylkill County Agricultural Society, October 19th, 1854.

MR. PRESIDENT AND GENTLEMEN:—That nation whose agriculture is prosperous is foremost in civilization, whilst an inability to supply food betokens a weak government, in constant dread of famine, and a total lack of independence. Of old, agriculture was known as the nursing mother of the arts, for Xenophon has shown that "where it prospers the arts thrive, but where the earth is uncultivated, there the other arts are destroyed."

It may justly be termed a school of industry, which

teaches a reliance upon our own efforts for reward, and dignifies labor by the noble enterprise of subduing even the elements to the purpose of human subsistence. The palmiest days of Rome were distinguished for their reverence to this worthy employment; Cincinnatus, on his return from conquest, was more impatient to retire to his little villa, than to be greeted in triumph by the whole Roman people. The hand of Regulus fitted the plough as well as the sword. Whilst he was absent in Africa, the Senate attended to his crops, and sent him word that they would continue so to do, as long as he remained at the head of their armies.

Julius Agricola has the merit of being one of the earliest benefactors of Great Britain, in inculcating the art of culture, which afforded abundant supplies not only to the army but large quantities of grain were exported from the Island. After the Roman power declined, the constant predatory incursions of the numerous clans upon each others' possessions, rendered the tillage of the ground a precarious pursuit. The spirit of the warrior seemed humbled in the exercise of works so pacific and bloodless. Hence on such grounds must we infer those laws were founded which treated the cultivation of land as unworthy the notice of men, and prevented it from being followed except by women and slaves. There is in the character of the North American Indians a similar disregard for any occupation of industry. They leave all that is to be done by handiwork to women and slaves. The attractions of the chase are more congenial with their pleasures than those which of necessity are more sedentary and tedious. What is the Red Man with such antecedents but a wanderer upon the face of the earth. Vainly have efforts been made to instruct him in the arts of civilization; he becomes an adept only to such as administer to his untamed passions, and his mission is closed wherever the stroke of the axe opens a path through the forest, and invites the fostering hand of industry to awaken the latent virtues of the soil. In a political as well as moral view there is much to be acquired from a permanent investiture of the soil. The principal charm of life is identified with it. Not only is it promotive of the right of property and a consequent dependence upon the safety and security of the State, but the cottage reared by our forefathers, and the old oak that overshadows it, impress us with pleasing recollections. The associations of youth, of middle age, or of declining years, cluster around the heart in memory of the old homestead. The family altar is there—there the first lessons of instruction have been inculcated, and character has been formed to mark the progress of life with good or evil. The spirit of good is peculiarly the invocation of the husbandman. His daily observations of physical changes as tonish his senses, and lead him onward to a study of the source from whence they emanate. The truths of Revelation become manifest before him, without which civilization itself were but half accomplished. Just as well might we hope for bountiful crops from a parched and sterile desert, as that the best fruits of human knowledge could be gleaned without the salvo of some guiding principle, to renovate the mind and establish its future destiny. Advantages arising from the influences of agriculture upon the character of nations are palpable and of easy discernment. Wherever labor is degraded, and luxury, idleness and pride predominate, nations or individuals sink into insignificance and reproach, but where industry lends its vigorous features to civilization, the blessings of peace, prosperity and happiness ensue as well to the people as the State.

The prosperity of a nation is also augmented when the domain is apportioned into such divisions as may increase the number of lauded proprietors, thus to insure not only a better appreciation of every acre, by making it thoroughly productive, but also to rear a permanent yeomanry as ready to pay her taxes as to fight her battles. Thus the progressive spirit of the age points to the Homestead bill as a rational measure, by which humanity is elevated beyond the

common vicissitudes of fortune in assuring a home for the homeless. By such means the burdens of taxation will be lessened, and as small farms afford the largest profits, the value of productive wealth must be largely increased.

The quiet serenity and composure of rural districts, compared with the noise and turbulence incident to cities, would indicate that whilst commerce feeds the passions agriculture calms them. The agitations of trade are not congenial to the enlargement of human knowledge, or to the improvement of that perception of pleasure which makes contentment the principal object of human happiness. Districts and sections of country occur in which that happiness is a reality.

Imagine, if you please, an area of 300 square miles with a population of 400 persons. The inhabitants reside in numerous small hamlets neatly elevated by the hill side, and by common consent their local government is patriarchal. The aged of the village are generally the ancestors of the rest, and all seem to be united as one family. Their occupations are various, for none are idle. Some are agricultural, some pastoral, some fell the forest, and some penetrate the thickets in the chase, or perchance lure with gilded bait the lithesome trout. They spin and weave the fleece of their own flocks, and color their clothes with native hues that vie in lustre with the tyrian dye. Their fields afford them bread, and their own herds present rich rashers of beef, redolent with the fragrance of sweet pastures and fresh air, that would bring tears of delight to the admirer's of "England's staple," and make even a monk of La Trappe solicit temporary absolution. The wide spreading maple renders the tribute of sugar, and the wild bee brings them its easements of honey. Their trying times are constant and not periodical. Hospitality to the stranger is their ruling virtue. On such occasions the tables are laden with the choicest viands. Water sparkling and bright, fresh as from the rock of Horeb graces the festival, fit emblem of innocence and purity that adds new charms to every repast. There was but one fellow being whom they could not encourage; he was the physician, and old age was the only disease, for which *Materia Medica* suggested no remedy. The tax gatherer was provided for, and beside him they owed no man any thing. Their every want was supplied, and their every wish gratified; whilst care, the constant companion of mortals, seemed not yet to have discovered this little nook of Paradise. This is a truthful description of a township in this Commonwealth, whose virtues may well be imitated. There are doubtless many political theorists who would object to the unproductive character and apparent lethargy of a community whose commerce is complete without any foreign import, and whose requirements are supplied without the need of money. To such as desire to enlarge the area of exchanges, and believe in the importance of increasing the mutual relations of nations by commercial intercourse, there may be gleaned but a sorry consolation from these statistics. Yet on the other hand, if the object of government is the alleviation of human suffering, and the assurance of man's highest happiness, it may be well to inquire whether these objects are not better obtained in this simple manner, than by those ingenious devices of art which constrain an increase of exertion to attain an end already accomplished. If we are independent of foreign nations, and have within ourselves all the resources of abundance to supply our wants, the danger of war is not to be dreaded, because without an object of gain it is unfashionable to provoke it. The wealth of the government in our system of liberty is rather an evidence of misrule than of good fortune, for whatever may be the wealth of individuals, that can only be maintained and protected by the most simple and economical administration of public affairs. With us, excessive accumulations in the treasury are a nucleus around which disasters cluster like moths around the glare of a lamp; it beguiles them from their better instincts, and draws them into a vortex of ruin

that never can be retrieved. Schemes and projects, however impracticable and speculative, are induced into plausible shape, and exhibit a disgusting picture of speculation and artifice, in which not only our law-givers participate, but the very Ministers of the Constitution have been willing to lend their superior service. A desertion of gradual means for a sudden and alluring prospect of gain has degraded nations in the scale of power. Our own California, with all her fascinations, has cost us more than she has yet paid; Spain, like a spider, sits couching upon the ruins of her former grandeur, and the celebrated cities of the Hanseatic league present a melancholy contrast to their once formidable power. The strength of our national prosperity consists in the even tenor, the energy and firmness of our agricultural population, who seek not by sudden exertions to obviate the necessity of future labor, but rely on their own efforts for the supply of every want, and for a resource under every emergency. The husbandman in a free country occupies the first rank amongst men. Instead of soliciting the favor, accommodating himself to the caprice, or administering to the vanities of mankind, he enters upon an equal and uniform career. The changes of the seasons and the operations of the elements, are subjects whose nature he studies and to whose variations he conforms his practice. His vigilance never slumbers, but inspires a shrewd caution without that despicable cunning, which is acquired by bending to the humour of the times, and speculating on the changes of the fashions. Thus the art to which he is devoted, as far as it tends to elevate the mind and create a dignity of sentiment, must be allowed to rank among the pursuits of life, as higher and more worthy of his being. Look, if you please, for a moment at his present condition. In what dilemma is now the farming interest of the country? Where is its indebtedness? With what wild adventure has it become involved? Commerce, confused and precarious, ideal projects of vast extent, commenced upon groundless promises, are fast sinking into that insignificance to which a want of means consigns them. But this confusion presents to him no alarm, he has relied upon the bountiful resources of his well tilled soil, and invested in no adventure than that which long experience has sanctioned, and sound judgment approved. Almost all the classical authors, whether statesmen, philosophers or poets, have left some memento upon this art. What Hesiod, Xenophon, Cato, Columella, and Cicero, deemed worthy of their regard, remained for Virgil to adorn with the eloquence of his poetic genius. The whole theory of farming is found in the instructions left us by Cato, that "the first thing to be done is to plough well, the second to plough, and the third to manure." In 1534 the first book on English husbandry, by Judge Fitzherbert, was published. After him, Gabriel Platten published a dissertation, which invites attention only for its quaintness of style. His directions how to discover a coal mine is part of his subject, and may afford some amusement if nothing else. He remarks: "When I consider the great number of treasures and riches which lyeth hidden in the belly of the earth, and doth no good at all, and when I consider that the most part of the mines hitherto discovered have come by mere accident, I thought that I could not be better employed than to give rules and directions for the same, for though it is not impossible that if two men be sent to seek a thing that is lost, and one of them be hoodwinked and the other have the use and benefit of his eyes, yet the person hoodwinked may casually stumble upon it, nevertheless it is twenty to one that the other should have found it before him. So in this case, I dare hazard a wager of twenty to one, that there will be more good mines discovered within seven years by these rules and directions than have been in twenty-seven years before. Though the pit coals be of small value, yet if a good mine be discovered, herein is a receipt for the purpose. About the middle of May, when the subterranean vapors are strong, which may be discovered by the fern which about

that time will suddenly grow out of the earth in a night or two, almost a handful in length, then take a pure white piece of tiffany and wet it in the dew of the grass which is all of that spring's growth, and not soiled with cattle nor no other thing, then wring out the dew from it, and do so five or six times, and if there be coals the tiffany will be a little blacked and made foul with the sooty vapours arising through the coals and condensed among the dew. I admonish him that shall try with the tiffany upon the dew, to let his hands be washed before with soap and hot water, and wiped with a pure white cloth till they will not foul the cloth at all, also if they spend their money in digging and find nothing, they may thank their foul fingers for that misfortune."

Sir William Temple, in 1680, thus treats upon gardening: "That which makes the care of gardening more necessary or at least more excusable, is, that all men eat fruit that can get it. So as the choice is only whether one will eat good or ill, and between these the difference is not greater in point of taste and delicacy than it is of health, for whoever is used to eat good fruit will do very great penance when he comes to ill. Now whoever will be sure to eat good fruit must do it out of a garden of his own, for there is something very nice in gathering them and choosing the best, even from the same tree. The best fruit that is bought has no more of the master's care than how to raise the greatest gains. His business is to have as much fruit as he can upon as few trees, whereas, the way to have it excellent is to have but little upon many trees. So that for all things out of a garden, either of salad or fruits, a poor man will eat better that has one of his own, than a rich man that has none."

It was left for Jethro Tull to suggest the wonderful advantages of drill culture, by which an impulse was given to the better construction of the tools and implements of husbandry. The primitive instruments of the days of Gideon and Saul, when iron was unknown, and ploughs made of crooked roots pointed with ox horns, were now no longer used to torture the rugged earth into obedience. Mathematical precision and accuracy, and a goodly stirring up of the earth, were accomplished by the drill invention of Jethro Tull. Although it was to the improvements of the present day, as Franklin's kite compared with the Electric Telegraph, yet the conception once achieved, the thought indurated and spread abroad, becoming a new incentive to additional efforts in saving labor and perfecting the mechanical machinery of culture. Whitney's cotton gin sprang from this source, and created a staple commodity for this country, that otherwise, from the high rate of labor, could not have been made available. The hoe-harrow, the plough, the roller, the clod-crusher, the rake, the corn-plough, the mower, the reaper and thresher, with daily accessions to their number, are constantly being rendered more effective and useful. The application of chemistry to agriculture is comparatively of modern date. To Doctor Priestly are we indebted for the first experiments, that demonstrated the decomposition of the carbonic acid of the atmosphere, by leaves of vegetables giving out oxygen and assimilating carbon. Sir Humphrey Davy, taking this initiative, occupied himself with every philosophical inquiry in the application of chemistry to the growth of plants and organic processes.

Liebig, professing to follow in the train of Davy, by minute research and devoted study, has applied the physical sciences to agriculture, until the laws of vitality which govern the functions of plants, are fast ceasing to be a mystery.

The necessity for some means of renovation and rendering fertile worn out and exhausted lands, is of the greatest importance. The work of destruction is going on to so great an extent, that in after time, what now is a smiling prairie, may become a desolate waste. The sugar and cot-

ton planters deem the refuse of their crops so great an impediment to their present convenience, that they either erect high chimnies in order to burn them, or else cast them into the neighboring streams as a nuisance. The corn growers of the west have similar troubles, whilst the grain growers of the north are being admonished by the diminution of results, and the reduced average of product per acre, that the earlier cultivators had better have hoarded those resources with more care, is the sad experience of their descendants. Science has been providentially and wisely directed to these investigations, in determining the various ingredients of the soil and their relative qualities, in ascertaining their combination, and in the application thereof to plants; not to plants only can this research be limited, but animals, birds and insects, their structure, habits and manners, are features indispensably necessary to be known. Science also teaches us that the laws of nature are unchangeable, and that all the phenomena which matter evolves are the result of these laws. Thus, to gather causes from effects, to assign to each agency its share in the growth of plants, becomes an object of instruction and profit.

To ask that every farmer should become a chemist, is requesting more than his arduous duties would permit, but that he should avail himself of the advantages arising therefrom, would be an evidence of knowing his best interests and minding his own business.

He would learn that the principal property of a potato is potash; that of wheat, rye, corn and buckwheat, is phosphoric acid; of corn stalks, soda; of meadow hay, silica; and of clover, lime. The food that plants obtain from the air are oxygen and hydrogen, although nitrogen composes 4-5ths of the atmosphere, yet, it is said, that plants do not receive it directly from this source but from its compounds, as in rain water, and as ammonia, which consists of nitrogen and hydrogen. Carbon, which is also contained in the atmosphere, enters largely into and forms the greatest constituent of all plants; it is but 1-500 part of the atmosphere. The inquiry may be made, as nature supplies such an excess of nitrogen, and requires so little, whilst carbon is so small a constituent and yet so much required, whether these are not among the impenetrabilia of nature into which science has not yet been permitted to enter? The organic food is from the air, and the inorganic from the soil, composed chiefly of soda, potash, magnesia, sulphuric acid, phosphoric acid, chlorine, silica and lime. This, then, is the theory of agricultural chemistry. It proposes to define the component parts of the soil and atmosphere, and by an analysis of the products which are cultivated, it supplies by artificial means to the soil again those properties of which the crops deprived it. It is true, that the processes by which plants absorb these different elements are not yet understood, and it has been questioned whether mineral manure, or ammonia, is the most advantageous to these processes. Experiments in the field can alone determine the fact, although it is safe to say that great benefits result from the use of both. This is emphatically an age in which there seems to be a perfect epidemic for books on every subject, and agriculture comes in for a large share. Too frequently, however, more is claimed for a discovery or invention than it deserves; as of yore, the alchemist professed to make gold by means of a refined and mystical powder, applied to the inferior metals, so the pretensions of the bibliopole promise many more advantages than can be realized; where so much is doing, some new theme of agitation is constantly invoked, so as to afford interest and variety, and thus insure a sale of the book itself, or the patent fertilizer it may recommend. It has become a reproach to us, that our attachment to old customs prevents any attempt at the introduction of improvements. This is an unjust imputation. If you cast your eye upon the counties of Lancaster, Berks, Lehigh, Northampton and

York, and compare the refreshing aspect they present with any other agricultural region in the Commonwealth, you will find the cycle of crops as well understood and practised as in any part of the world, wherever wages rule at the same rate. They seek to learn the truth of an experiment before it is adopted, and whilst they are conscious that many operations upon the farm may be more effectual in results, yet the question of expense is often an evidence of the inutility arising from it. What avails the increase of products if the cost thereof exceeds the profit? Men of unlimited means may amuse themselves by every suggestion that theory presents, but the soil is expected to remunerate the husbandman, or else his labor is bestowed in vain. Let it not be said that there is an aversion to improvement, since so much is expected by inventors and patentees, that it would require more than a farm is worth to yield a trial to all the projects they choose to offer.

In agricultural pursuits it is better to be cautious of innovations, than to be led away too hastily by every suggestion that finds its way in print from an irresponsible source. If the cardinal virtues of the husbandman, industry, temperance, economy and prudence, are wanting, he looks in vain for success or prosperity from any quarter, experimental or practical. The sooner he closes his account current with our good and benign Mother Earth, the better it will be for him and posterity, for men cannot "gather grapes of thorns, or figs of thistles." Usages honored in memory have mostly answered a good purpose, as the custom of looking into the almanac for a propitious sign at least establishes a time and a season for work, if even the moon has no influence upon the operation. Too much attention to the mechanical labor cannot well be exerted upon land. Every stone that can be removed adds to the facility of working it, and if it could be afforded, spade culture is known to be more perfect and successful than any other, because the regular pulverization of the whole is more complete than by any other method. The fertility of a soil must be repaired, not only by proper plowing and hoeing, that it may be subjected to atmospheric influences, but it must also be fed with such substances as afford nutriment to vegetation. This is done by manure. Whilst science has shown that there are many sources from which the manure heaps may be replenished, there has as yet been no denial of the value, nor has any substitute been preferred to the old fashioned modicum, commonly known as barnyard manure. This has been, heretofore, the main reliance of farmers, and when applied abundantly has never been known to fail. Yet the inventions of concentrated manures, such as can be purchased at a reasonable price, and possess fertilizing qualities, is a powerful aid to those who have not the opportunity of procuring a better restorative to a worn out soil.

The water or moisture in barnyard manure is generally 4-5ths of the whole, so that the expense of labor for every twenty tons upon the field embraces the item sixteen tons of water. These twenty tons, it is contended, are not more efficacious than 500 lbs. of super-phosphate of lime. It is an excellent excitement to the growth of clover, which in this part of the country has long been considered the chief support of a good system of husbandry. Various other chemical inventions are found in the market, but the super-phosphate of lime, made of bones dissolved in sulphuric acid, to which is added ammonia, seems to bear the palm of merit. Another recent invention of adding dried blood to super-phosphate of lime, in order to nitrogenate it, is spoken of. Whether the potash, ammonia, lime, magnesia, chlorine, phosphorous, sulphur and soda, which may be wanted, can be thus supplied, is questionable. From my own experience, the super-phosphate of lime, although an excellent renovator, induces the growth of smut and ergot, in the excess of free phosphoric acid. Public attention for some time

has been directed to guano, as likely to prove an invaluable adjunct to revive fertility. The interest of the national debt of Peru is paid by the sale of this article alone. Such is its wonderful effect, that they have a proverb, "although guano is no saint, it performs many miracles." It is supposed in the present year the exports of guano to all ports may reach 300,000 tons, paying to the government of Peru \$20 per ton, or six millions of dollars profit. Of this amount the United States receive about 100,000 tons, being an increase of 95,000 tons over the first shipment of 1845. There are other guano deposits elsewhere, but of inferior quality. Owing to the great demand for this article, English and American merchants, ever on the alert, by advances and loans to Peru, have obtained peculiar privileges in the trade, until at length the price has reached the exorbitant sum of \$54 per ton. At such rate it ceases to be remunerative to the farmer, as the crop will be absorbed by the expenses incident to it. Efforts are making by the United States to have the price reduced, but thus far negotiations have failed. Peru owns the Islands from whence it is taken, and which in fact are but the roosts of sea birds. As it never rains there the dung accumulates, which, together with the spray of the sea and the refuse of dead birds and garbage, form this invaluable compost. The States of Maryland and Virginia have chemists specially authorized to investigate every lot that arrives, so that purchasers are assured of the quality they acquire.

The following very valuable compound, or artificial guano, has met with great favor in Virginia, and may be prepared at a cost of fifteen dollars per ton:

Poultry dung,.....	10 bushels.
Mould from pine woods,.....	10 "
Fine bone dust,.....	3 "
Ground Gypsum,.....	3 "
Nitrate of Soda,.....	40 pounds.
Sal Ammoniac,.....	22 "
Carb. Ammonia,.....	11 "
Sulphate of Soda,.....	20 "
Sulphate of Magnesia,.....	10 "
Common Salt,.....	10 "

Dissolve Nos. 5, 6, 7, 8, 9 and 10, in water sufficient therefor, and then add the whole together as if making mortar, putting in the gypsum last. Keep in a dry place, covered, so as to exclude the air until used. This will answer for six acres of land.

In this region, the abundance of anthracite coal dust may be considered an excellent means of assisting the fertility of the soil, particularly when composed of clay. Owing to its black color, it absorbs heat to a greater extent than clay, and acts mechanically in rendering the soil friable, loose, and permeable to the air. It contains 90 per cent. of carbon, and frequently traces of sulphur, the latter is always subject to the action of the atmosphere. Although the carbonic element may be too concrete to be soluble in water, yet the usual action of the weather tends to promote decay, which is also hastened by the coal being a large absorbent of water. What is mineral anthracite was once living plants that abstracted carbon from the air, which by burning, or the slower atmospheric decomposition, is returned again to be appropriated to the uses of vegetation.

To rely upon artificial manures as a universal remedy for wasted soils, is to elongate the suggestion with the same enthusiasm that homeopathy asks its followers to take occasional doses from the fragrance of an empty vial. Many of the conclusions of physical science are as yet upon the threshold of their subject, among the intricacies of which, the greatest point to be understood, is the existence of an universal power that governs organic structure.

To deny the value of mineral manures, as lime and gypsum, would run counter to the judgment of every practical observer, and in view of their admitted efficacy, are there not other minerals that might be advantageously applied to the soil? Phosphorus, that enters largely into the material of crops, is equally important with lime and gypsum. Every 100 bushels of wheat contains 60 lbs. of phosphoric acid. It occurs in the fossiliferous rocks below the coal formation, yet, as a component part of minerals, it is rare. From its scarcity among minerals, and the great requirement that some plants have for it, the phosphate of lime deserves a fair trial. The reason that guano answers so good a purpose is, that like barn-yard manure, it contains all the elements that promote the growth of plants. One of the most powerful and simple means of saturating the ammonia of manure, or fecal substances, is sulphate of iron, which is abundantly found in every coal mine of your county. What is commonly known as *sour water*, so deleterious to steam boilers, is the diluted mixture of sulphuric acid, iron and water, which, if evaporated to dryness, would form the copras of commerce, an article of great use in coloring processes. If applied to the dung-hill, it will combine with the ammonia and convert it into a fixed salt, that would thus be saved. The numerous topics to which the husbandman yields his attention, such as ploughing, rotation of crops, selection and treatment of seeds, soiling and fattening cattle, harvesting, irrigating and draining, are constantly subject to his closest investigation. There is no department of his pursuit that can be neglected, and every day's experience teaches him the truth of poor Richard's maxim,

"He who by the plough would thrive,
Himself must either hold or drive."

Although it seems a paradox, yet he will find that the art of draining has at last been applied, as well to dry lands to induce moisture, as it was at first supposed to be beneficial only to such as are wet. He must also establish such rules of discipline as will be most profitable, and by which his economy is regulated. If it takes more than 5 lbs. of corn meal to make 1 pound of beef, or $3\frac{1}{2}$ lbs. to make 1 pound of pork, the cost is greater than the profit. The choice of live stock, their habits and qualities, require earnest consideration. The Devon or Middle horned cattle, essentially the same, with those of Sussex, Wales and Scotland, are deemed to be the native breeds of Great Britain. Time and care have brought them to such perfection, that they are standard models throughout the world. Our common stock originated from thence, and may, by similar care, add greatly to the value of domestic herds. Choose, for instance, from your alpine districts the best cow that can be found, and place her in the pastures of your vallies; assume as a guide to her selection that seven quarts of milk make 1 quart of cream, or 21 lbs. of milk produce 1 lb. of butter, and you will then have good ground upon which to base your most sanguine endeavors. The supply of food, and the best form in which it is given, are of primary consideration, and it is scarcely necessary to add, that poor stock well attended may excel the best that is neglected. From wool culture in this part of Pennsylvania but little profit can be realized. It takes one ton of hay to make 14 lbs. of wool, in addition to which the losses from disease and accidents are numerous, because of all animals, the sheep is the most defenceless and inoffensive. Sheep require clean ranges, that the wool may not be disturbed by the undergrowth and thicket. In Schuylkill County such ranges are rare, but all the mountainous and uncleared portions, would be well adapted to the rearing of that most despised animal, the goat. It is so singularly constituted, that it prefers the neglected wild to the most cultivated fields, and delights in browsing upon

the boughs and barks of trees, whilst in winter it is contented with the dried leaves of the forest. Its milk has more consistency than cow's milk, keeps sweet a longer period, and is also richer in caseous matter. Its flesh properly prepared, is not inferior to venison, and whilst its hair possesses but little value, its skin is known everywhere in the shape of kid gloves and morocco shoes.

The fact that the goat will thrive where sheep will not, entitles this animal to more notice than it has hitherto received.

With all the attractions of interest that surround the farmer, the most skilful efforts remain unfruitful without favourable seasons. Beside the rust and smut, new enemies of the insect species are becoming formidable. For rust and smut there appears to be no certain prevention, it being a parasitic fungus which insinuates itself into, and diseases the plant, but for the ravages of insects there should be some remedy. The wheat midge has been destroyed in a degree by burning Orpiment, a mixture of sulphur and arsenic, before sunrise, or after sunset when the plant commences to flower. Care must be taken not to inhale the fumes. A simple remedy, is to carry strong lights around the field when the night is dark. A greater cure for this evil would be, to stop the war of extermination now constantly being waged against the feathered tribe. If this amusement were confined to mere birds of prey, or to those which inhabit the sedgy margins of our lakes and rivers, or delight in sporting their graceful forms upon the summit of our rock bound mountains, it is probable that the order of nature which assigns them food in their secluded haunts, would keep them from being considered of great consequence. But the wanton and indiscriminate slaughter of the minutest warbler that nestles in the cottage eaves, of the numerous and innocent birds that guard your orchards, and watch the destroyers of your grain crops, is a barbarity unworthy the dignity of a sportsman. What a trophy it is, for a stalwart specimen of humanity to while away all the antecedents of his moral and social qualities, in exchange for the life of a harmless sparrow. There is a sympathy in every heart, which renders us feelingly alive to the pain and sufferings of the humblest object of animated nature. It was this sympathy that caused an act of Parliament in the days of Charles the 1st "against the cruelty of ploughing by the taylor, and pulling wool off living sheep." Now every act of cruelty has a tendency to extinguish the sentiment of sympathy, and stifle the feelings of tenderness and benevolence. If a child be early trained to such exhibitions, the vicious propensity grows into a habit, and his sensibility even to human suffering, will be proportionally diminished. The torturer of a kitten, or the murderer of a bird, will, by degrees, become unrestrained from positive acts of violence towards his own species, whenever goaded thereto by the influence of interest or passion. Upon this foundation crimes are soon erected, until at length, grown callous to every social and moral impression, he closes his profligate career by the perpetration of deliberate murder. Is it a wonder that the corn worm revels, or the wheat midge swarms, or the caterpillar clusters, in untold myriads, when the race of birds that feed upon them is almost extinct.

The emulation which societies like yours inspire, is conducive to the public good, and in all your public exhibitions there is something to be learned, for which those who promote them may be congratulated. Knowledge is becoming so universal, that the complications of civil government vanish before it, and what were once known as learned professions, will be less distinguished through the general diffusion of public education. What nobler pursuit remains than agriculture, as a source of study and employment.

The day cannot be far distant, when the plough will be the first instrument with which the scholar may diversify his exercises, as it surely must become the only reliable basis upon which a free government can be maintained. It is a vast field of contemplation, in which all are interested to ascertain whether we can keep up the proper condition of the soil to afford sufficient food for the wants of an increasing population around us? Let this inquiry be fairly investigated. The fate of empires may be read in its detail, and memorials of former grandeur be gleaned from crumbling relics upon a desert waste.

New England Horse Exhibition.

We clip the following notice of the New England Horse Exhibition from the Rural New Yorker:—

"THE NEW ENGLAND HORSE SHOW came off at Brattleboro, Vt., Oct. 18, 19, and 20. It was, on the whole, quite successful. About 150 animals were entered, four-fifths of which were of the Morgan varieties—Black Hawks predominating. The trotting match was an attractive feature; 13 geldings and mares were entered for competition. The first prize of \$50, was taken by *Nelly A. Sherman*, an eight year old Morgan mare, owned by G. R. ORCUTT, of Middlebury, Vt.,—time 2 minutes and 49 seconds. *Lady Beesworth* by *Rattler*, a four year old, owned by H. H. THAXTER of Rutland, came in second. *Abdallah*, a six year old mare owned by J. L. BRIGGS, Springfield, Mass., came in third, and *Missesque Belle*, a four year old, of old Nimrod and Messenger blood, owned by A. N. STEVENS, of Engsburg, last. *Flying Morgan* owned by Mr. ADAMS of Burlington, trotted a match against time, making the mile in two minutes and fifty four seconds. Two Black Hawk and Morgan colts, each three years old, owned by Mrs. HATCH of Bethel, and GROSVENOR of Bridgeport, trotted a mile, the former in three minutes, and the latter in three minutes and three seconds.

It is to be feared that these trotting matches, useful and harmless in themselves, will engender a love for the race-course, than which few things are more pernicious to the morals of a community."

Experiments with Potatoes.

A correspondent of the Practical Farmer gives the following as the result of his experiments with potatoes last season. His ground was divided into squares of fourteen paces each, making about the one twenty-fifth part of an acre. The following is the yield:

Lot No. 1.—The potatoes were covered with salt hay, about six inches thick, over the whole square. Yielded four bushels.

Lot No. 2.—The potatoes were covered with slaked lime; then covered with soil, then spread half a bushel of salt over the square. Yielded four bushels.

Lot-No. 3.—The potatoes were covered with soil, then a coating of lime on the top. Yielded four and a quarter bushels.

Lot No. 4.—The potatoes were placed in the hills on the lime, and then covered with soil. Yielded four and a quarter bushels.

Lot No. 5.—First put a shovel full of tan in the hill, then the potatoes on the tan, and covered with soil. Yielded four and three quarters bushels.

Lot No. 6.—Put a shovel full of barn manure, from the stall where my oxen were kept, and covered with soil. Yielded four bushels—the poorest lot in the field.

Lot No. 7.—Dropped the potatoes and threw a shovel full of tan upon them, and then covered with soil. Yielded four and a half bushels.

Lot No. 8.—Dropped the potatoes and threw a shovel full of meadow mud upon them, and then covered with soil. Yielded four bushels.

Lot No. 9.—The same as No. 8, with the potatoes dropped on the mud. Yielded four bushels.

The potatoes in Nos. 5 and 7 were up a week before the others.

In most of the parcels, except where the tan was used, there were found more or less of defective potatoes. Those that grew in tan were larger, smoother, and of better quality than the others.

New Varieties of the Grape.

We extract the following description of two new varieties of Grapes produced by J. E. Allen of Salem, Mass., from the Boston Cultivator:

One is a white grape produced by a cross of exotic and variety on the Isabella. This has been exhibited at the meetings of the Massachusetts Horticultural Society this year, and its quality has been unanimously pronounced *delicious*. The skin is thin and tender, the seeds few and small, with no hardness of pulp, and the flavor very sweet and luscious, without any *foxiness*. It is about the size of the Isabella. Mr. A's other seedling is purple. It is not so sweet as the former, but sweet enough for many palates, and of a very high, vinous flavor. It is of medium size, and globular form.

These varieties have been produced in a cold vinery. Either of them are ten days or two weeks earlier than the Isabella grown in the same situation. They are now to be tried in the open air, and should they succeed here, they will be a great acquisition.

Ohio and Pennsylvania Horse Show.

DRAFT STALLIONS—FIVE ENTRIES.

1. Premium, "Side Hamlet," W. Irvine, West Liberty, Virginia. 2. Premium, "Canadian," Jeremiah Ripple, North Benton, Mahoning county, Ohio.

In this class John Heldenbrand, of Masillon, exhibited a superior imported English draft horse, sixteen and a half hands high, and weighing 1,700 lbs., which many thought ought to have had the second premium.

DRAFT HORSES—FIVE ENTRIES.

1. L. Cope, Smithfield, Ohio. 2. John Alexander, Pittsburgh, Pa.

MARES WITH FOAL BY SIDE—EIGHT ENTRIES.

1. Benjamin Ladd, Smithfield, Ohio. 2. General Jarvis, Masillon, Ohio.

BEST YEARLING FILLY.

1. William Irvine, West Liberty, Va. 2. W. H. Ladd, Richmond, Jefferson county, Ohio.

BEST TWO YEAR OLD FILLY.

1. John V. Pierce, Lancaster, Ohio. 2. P. L. Rush, Girard, Trumbull county, Ohio.

BEST YEARLING STALLION

1. "Tom Benton," N. Andrews, Youngstown, Ohio. 2. "Know Nothing," James M. Brown, North Bloomfield, Trumbull county, Ohio.

BEST TWO YEAR OLD STALLION.

1. W. D. Townsend, Salem. 2. W. L. Hull, Youngstown, Ohio.

BEST SUCKING COLT—SEVEN ENTRIES.

1. W. H. Ladd, Richmond, Jefferson county, Ohio. 2. Benjamin Ladd, Smithfield, Ohio.

MATCHED HORSES—TEN ENTRIES.

1. W. Doolittle, Elyria, Ohio. 2. Lucius Dyer, Youngstown, Ohio.

PACERS—ELEVEN ENTRIES.

1. Roland D. Noble, Cleveland, Ohio. No second premi-

um.

Mr. Noble's horse attracted a great deal of attention, on account of his rapid and honest trotting. He is only four years old, and although the track was very heavy, he made his mile with ease in 2.54, and distanced all his competitors.

ROADSTERS UNDER SIX YEARS—NINETEEN ENTRIES.

1. C. H. Andrews, Youngstown, Ohio. 2. W. W. Woodward, Wooster, Ohio.

ROADSTERS OVER SIX YEARS.

1. H. Collins, Ravenna, Ohio. 2. G. W. Wilson, Canton, Ohio.

THIRD DAY.

October 13th.

This day has been bright and beautiful, and never have I spent one more pleasantly. The race course was in excellent order, and the people were greatly pleased with the trials of speed that have taken place on it.

First, after the grand cavalcade, came

THREE YEAR OLD STALLIONS AND FILLIES—SIXTEEN ENTRIES STALLIONS.

1. John Wiley, Hopedale, Harrison county, Ohio. 2. J. M. Brown, North Bloomfield, Ohio, on his horse "Young Revenge."

FILLIES.

1. Thomas W. Ladd, Smithfield, Ohio. 2. A. & J. Cunningham, Richmond, Ohio.

SADDLE HORSES—ELEVEN ENTRIES.

1. W. H. Ladd, Richmond, Ohio. 2. D. E. Updegraff, Mount Pleasant, Ohio.

Mrs. Cornwell and Miss De Ett Pelton were two of the committee on saddle horses. A new feature in stock exhibition, and will be a common one, as people grow wiser, and therefore more liberal.

STALLIONS FOR ALL PURPOSES—TWENTY ENTRIES.

The entries in this class numbered twenty, and the class itself is so important, that we give them somewhat in detail. They were a lot of magnificent horses.

1. "Champion Black Hawk," owned by James D. & Thos. Ladd, Richmond, Jefferson county, Ohio. 2. "Morgan Chief," B. F. Ketchum, Brandon, Vt., sired by Old Green Mountain. 3. "Blucher," owned by Aaron Wilson, Salem, Ohio. 4. "Hiatoga," Moses Handly, Hopedale, Harrison county, Ohio, sired by old Hiatoga, dam an Eclipse and Sir Peter, a blood bay—beautiful lofty horse. 5. "Arabian," D. R. Pettit, Damascus, Ohio. 6. "Henry May Day, Jr.," Lamuel Sillim, New Waterford, Columbiana county, Ohio. 7. "Onderdonk," a fine Black Hawk horse, bay roan, seven years old, owned by Brown, Spencer & Co., Chardon, Ohio. Several of his colts were on the ground and took premiums. 8. "Morgan Messenger," L. Dyer, Youngstown, ten years old, chesnut, and a capital horse. 9. "Sir Solomon," owner not given. 10. "Carlo," S. Dale, Edinburgh, Portage county, Ohio. 11. "May Duke," J. W. Youngs, Lodi, Medina county, Ohio, a good horse. 12. "Jim," J. Ripple, North Benton, Mahoning county, Ohio. 13. "Tuckahoe," J. Shepherd, Marshall county, Va. 14. "Virginia Dudley," W. T. Ingfriz, Dalton, Ohio, an excellent horse. 15. "Tuckahoe," J. Trimble, Warrentown, Jefferson county, Ohio, a fine horse and good trotter. 16. "Kennabee," formerly owned in Cleveland, but recently purchased of Dr. Robinson for three thousand dollars, by Pelton & Co. The owners are Marvin H. Brown and W. H. Howe, of North Bloomfield, and Lysander Pelton, Gustavus, Trumbull county, Ohio. He is a fine animal, but was quite lame in consequence of a "quarter crack" in his hoof. 17. "David Hill," Pelton & Co., Gustavus, six years old, sired by Old Black Hawk, dam a Messenger mare. 18. "Tuckahoe," John N. Dixon, Columbiana, Ohio. 19. "Morgan Bulrush," L. C. Kimball, Ravenna, O.,

a capital horse. 20. "Morgan Eagle," L. Dyer, Youngstown, Ohio.

The first premium was awarded to "Champion," James D. & Thomas Ladd, Richmond, Ohio.

There were so many other good horses, that the Judges found it impossible to make a selection for a second premium, and therefore none was awarded.

LADIES RIDING.

This lasted one hour—from 12 M. to 1—and interested the people more than any other portion of the exhibition. The riders were Mrs. C. H. Cornwell and Miss Heaton, of Salem, Miss De Ett Pelton, of Gustavus, Trumbull county, Ohio, Miss Peebles, of New Castle, Pa., Mrs. Eckhart, of Wooster, and Mrs. Eunice Hall, of New Lyme, Ashtabula county, Ohio. They all rode well, but Mrs. Cornwell and Miss Pelton rode with an ease and daring, which I never saw equalled. Miss Pelton rode a "Gifford Morgan" stallion, out of a Messenger mare, which she had trained herself. He would obey every motion of his rider instantly. Mrs. Cornwell rode an Arabian stallion, that was as beautiful as a picture and fleet as the wind, but he was not near so well trained as Miss Pelton's.

THOROUGH BRED STALLIONS—EIGHT ENTRIES.

1. "Hastings Morgan," E. B. Hastings, Hanoverton, Ohio.
2. "Clay Trustee," John V. Pierce, Lancaster, Ohio. He is a magnificent horse, 16½ hands high, and took the 1st premiums last year at the Ohio State Fair.
3. "Napoleon," J. B. Welsh, Beaver, Pa.
4. "May Day, Jr.," Samuel Sillim, New Waterford, Columbiana county, Ohio.
5. "Consternation," A. K. Milan, Dalton, Wayne county, Ohio, dark, four years old. Siro old Consternation, dam Messenger mare.
6. "Virginia Dudley," W. T. Ingfritz, Dalton, Ohio.
7. "Black Hawk," Isaac J. Thomas, 14 years old.
8. John Byrns, New Lisbon, Ohio.

The first premium was awarded to Clay Trustee. No second premium was awarded, for want of satisfactory pedigree—although the animals were—many of them—superior.

THOROUGH BRED MARES—FIVE ENTRIES.

1. Premium, Levi Mills, West Liberty, Va.
2. A. M. Wilson, Mahoning county, Ohio.

TROTTER HORSES—FIFTEEN ENTRIES.

1. "Old Joe," G. W. Wilson, Canton, Ohio.
2. "Spile Driver," John Fee, Bloomfield, Ohio.

Many of the trotters were fine animals; this was especially so with a four year old sorrel mare, belonging to D. B. Updgraff, Mount Pleasant, Ohio. An iron grey horse, called "Bob," and owned in Salem, is a fine trotter. The best time made was 3.03.—*Ohio Farmer.*

Bucks County Agricultural Society.

The following is the report of the Committee on Field Crops of the Bucks County Agricultural Society:

They deem it a matter of surprise and regret, that, notwithstanding the good farming and general success of the crops the present season through this section, we have been called upon to inspect but one set of crops, viz: those on the farm of Mr. William Stavely, consisting of one field of wheat, and two of corn. As we consider the aforesaid crops of superior growth and quality, we here insert his mode of culture, for the benefit of the agricultural community:

First, A field of Mediterranean wheat, consisting of twenty-two acres, oats stubble fallow, heavily manured, and plowed in during the month of August, plowed a second time about the middle of September, and drilled in at the rate of one-and-a-half bushels per acre. We estimate the average yield at thirty bushels per acre, and award him the first premium of \$5.

Second, A field of corn, (on the Street Road,) containing

about twenty-two acres, was an old sod, and was plowed in the fall to the depth of about nine inches. One-half was manured in the fall before plowing; the other half was manured after plowing, in the spring, and well harrowed in. The whole was then ridged, and planted on the 13th of May, three by four feet, four stalks in a hill. Although the crop is evidently cut off from ten to fifteen bushels per acre on account of the storm which passed over it during the month of July, and the severe drought of the latter part of the season, yet the committee fully agree in estimating the average yield at 70 bushels per acre, for which they award the first premium of \$5.

Third, A field of corn, containing about twenty acres, Was an old sod of six years' standing, principally of natural grass; about one-half plowed in the fall, the remainder in the spring. It was furrowed but one way, and planted, about three by four feet, on the 6th of May. As this field had not the advantage of manure, we consider it fully equal, in proportion to the cost of cultivation, to the field first noticed, and estimate the average yield at fifty-five bushels per acre.

The best product was from the fall plowing.

The committee concur in opinion that the extraordinary success which Mr. Stavely met with the present season in growing corn, is in a great measure attributable to his mode of deep ploughing.

EDWARD NICKLESON,

AMOS K. CLAYTON,

JOHN BARNSELY,

JOSEPH HOWELL,

SAMUEL C. CADWALLADER,

Committee.

Bedford County Agricultural Fair.

The third annual fair of the Bedford County Agricultural Society was held at Bedford, on the 18th, 19th, and 20th of October. We condense the following notice from the *Inquirer and Chronicle*:—The Exhibition, considering the drought, and generally unfavorable season, was very creditable, and equal in many respects to any of the former ones. It brought together a vast concourse of people from all parts of the county, and cheerful countenances and friendly greetings were witnessed everywhere.

The exhibition of stock was quite creditable. The display of draft, harness, and saddle horses, colts, brood-mares, &c., giving evidence that in this respect the farmers of Bedford County will not long be behind those of any other county in the Commonwealth. Several fine teams also were entered, as will appear more fully in the report of the committee. The display of cattle, whilst perhaps equal to former years, is still not what it might be, and what we should like to see it. The Cotswold and Southdown sheep were of reasonable quality. The hogs chiefly consisted of Berkshire and Chester breeds, and some most beautiful pigs owned by Mr. Wm. Hartley were on exhibition.

New Castle County Fair.

Want of room prevented us noticing the annual exhibition of the New Castle (Delaware) County Exhibition, which was held in the city of Wilmington on the — day of October. The display, although highly creditable, was not in all respects what we had expected, and what we think New Castle county farmers should have made. There were several fine horses on the ground, among which we noticed some Morgan Black Hawks that would have graced even a Vermont fair. As an offset to these we saw a mare and colt—the former of which was far, very far, on the downhill of life, and, as a necessary consequence, the latter languid and emaciated. Surely no one but the owner could have supposed them worth a premium.

Among the neat cattle, the Devons were the most numerous, and some of them were truly splendid animals. There

were also a few fine Durhams. Little attention was paid to sheep and swine. The vegetable, produce and domestic departments contained some superior articles, but the variety was limited. The implement department was very fine. The different agricultural warehouses in Wilmington exhibited numbers of the best and most valuable implements in use, most of which were finished in an elegant manner. We do not remember to have seen as large a display of implements at any other exhibition this season, except at the State Fair, and from the attention bestowed upon them, they were far from being the least observed articles on the ground.

Lawrence County Agricultural Society.

A friend having sent us a paper containing the award of premiums by this Society at their recent annual fair, we are enabled to make the following synopsis:

John Taylor took the premium of \$10 for train of working oxen; John Cunningham, \$2, for the best pair five years old; James Nesbit for best pair four years old; Henry Onshot for best pair three years old; Wm. Welsh for best pair two year old; and Ezekiel Thompson for best pair one year old.

James Forrest took the premium of \$4 for best Durham bull four years old; Wm. Brown for best Devon bull three years old; Henry Onshot for best Devon bulls one and two years old; Isaac Gibson for best Durham calf five months old, and Henry Onshot for best do. four months old. R. Fullerton for best Durham cow six years old; A. Neal for best Devon cow nine years old; Matthew Irvin for best Durham heifer one year old.

A number of fine horses were exhibited, among which we observe Mr. Dyer's Morgan, for which he received a diploma.

The Merino, Saxony and Leicester sheep were represented by some fine animals. We also observed a French Merino buck exhibited by Mr. A. L. Reno.

The departments of poultry, dairy, farming implements, mechanic arts, horticultural, and miscellaneous, appear to have all been well represented.

We give the awards to the lady contestants for horsemanship in full:

RIDING ON HORSEBACK.

Mrs. M. Gantz, best riding, (side saddle) \$20; Miss Louisa Crosier, second best riding, (brille, martingales and whip) \$10; Miss Mary A. B. Patton, diploma; Miss Mary Craven, diploma; Miss Mary Richards, diploma.

DRIVING.

Miss Mary A. B. Patten best driving, (best set silver table spoons) \$25; Josephine Boyd, second best driving, (one set silver tea spoons) \$10.

Perry County Agricultural Fair.

The third annual fair of the Perry County Agricultural Society was held at Bloomfield on the 18th, 19th and 20th days of October. The attendance was large. We append the following notice from the *Freeman*: "There was quite a praiseworthy display of horses, cattle, farming implements, manufactured articles, &c. The excessive drought of the season, which withered and dried up all kinds of vegetable matter, caused a great falling off since last year's fair in the vegetable and cereal department. But notwithstanding all this, the fair exceeded the expectations of its managers in quality and quantity of all things exhibited. In a pecuniary point of view, it exceeded all previously formed expectations, and demonstrated that, with a proper care and judicious attention to its interests, the agriculturists and mechanics of Perry county can make their annual exhibitions a 'fixed fact' and a permanent institution."

Westmoreland County Agricultural Fair.

The third annual fair of the Westmoreland County Agricultural Society was held at Greensburg on the 11th, 12th and 13th days of October. The array of horses, neat cattle of the improved breeds, sheep and swine, was highly creditable. The ladies' department was particularly fine. The display of vegetables, fruit, &c., was good for the season, but not what might be looked for in a more favorable year. The Hon. R. R. Reed, of Washington, Pa., delivered an address replete with information and good sense. Our friends in Westmoreland may congratulate themselves on the success of their third effort of the kind. We trust to be present at their next exhibition, and report in per on our notions of the merits of articles on the ground.

McKean County Agricultural Fair.

The annual exhibition of this Society was held at Smethport on the 4th and 5th of October. The array of animals and articles was quite imposing. It is but recently that the farmers in McKean have turned their attention to improving their stock. We trust by another year, or two at the farthest, a number of noble Durhams and Devons will take the place of some of the native stock recently shown at the fair. Many of the articles on exhibition were truly very fine, and on the whole our friends in McKean may take credit to themselves for their effort.

Cumberland County Agricultural Fair.

We have looked in vain for some account of the annual exhibition of the Cumberland County Agricultural Society. We have been informed that it was a very fine one, but neither the communication promised, or even a paper containing the report, have yet reached us. Perhaps our brethren of the press at Carlisle had so many calls for copies, that they had to give their exchanges the go-by.

Carmichaelstown (Greene County) Fair.

We learn from the *Waynesburg Eagle* that the display of live stock, grain, fruits and manufactured articles, were excellent. Greene county has the soil and the citizens to render it a rich agricultural country, but they need the influence of a few hundred copies of the *Farm Journal* to awaken them to the advantages they possess.

Northumberland County Agricultural Fair.

The annual exhibition of the Northumberland County Agricultural Society was held at Shamokin, on the 17th of October. The display in many respects was very fine, particularly in the poultry department. Our friend David Taggart, Esq., who has done so much to draw public attention to the utility of improvement in fowls, had one hundred and sixty specimens on the ground. We learn from the list of premiums, that David Haas took the premium for the best stallion; Wm. M. Marshall for best mares; A. R. Fisk for best single horse; S. John for the best bulls and cows; and Samuel Slenker for best oxen. The premium list for grain, vegetables, fruits, implements, dairy, domestic manufactures and miscellaneous articles, indicates that these departments were all well represented.

Horatio G. Taggart has been appointed Treasurer of the Society.

Northampton County Agricultural Fair.

The second annual fair, recently held at Nazareth, was highly creditable to the Society. Some dissensions had been occasioned by the location, and it was feared by many that both the display and attendance would be small. The Society has reason to congratulate itself, however, on both

the quantity and quality of the articles exhibited, and on the numbers of visitors. We have been assured that many of the animals and articles deposited possessed very decided merit.

Sullivan County Agricultural Fair.

The Sullivan County Agricultural Fair was held at Laporte on the 3d of November. The day was unfavorable for exhibiting animals, and comparatively few were on the ground. The produce department of the exhibition was held in a hall, and this part of the display appears to have been very good. The Sullivan County *Democrat* states that potatoes, beets, turnips, squashes, &c., &c., were fine and in large quantities. In running over the premiums awarded, we perceived that the number of articles of domestic and other manufactures was quite large. The exhibition exceeded the expectation of its friends, which is saying a good deal.

Clarion County Agricultural Fair.

The Clarion County Agricultural Society held their first annual exhibition on the 17th of October. The display and attendance exceeded the most sanguine hopes of the society. The fresh flowers, vegetables and domestic manufactures were all excellent. Many of the horses were exceedingly fine. On the whole our friends in Clarion are more than pleased with this their *experimental* exhibition, and they are satisfied they can maintain their organization.

For the Farm Journal.

European Agriculture--No. 10.

Agricultural department of the Exhibition of German Industry at Munich.

MUNICH, AUGUST, 1854

A day spent in the Agricultural department of the Exhibition of German Industry at this place, I trust will enable me to furnish some material upon this subject, that may be interesting to your readers. The general exhibition embraces such articles as are appropriate to its name, which are produced throughout the German states. The building is glass similar to that of the New York exhibition, and the quantity and quality of materials exhibited were not far inferior to those of that city. But I shall confine my remarks exclusively to the agricultural department. A cursory examination of the articles served to confirm what almost every thing I see in Germany suggests, that we have more to learn from them of scientific agriculture, of the proper use and application of manures, the methods of collecting, manufacturing, and preserving them, than we have of the construction of materials with which to perform the labor of the farm. The difference in the kind of land, the price of labor and the method of farming by organized communities render many of their utensils useless to the American farmer.

They have wheat drills to go by hand instead of horsepower. Feed grinding and threshing machines turned in the same way, none of which our farmers would think of adopting with our system of wages.

Their ploughs and harrows are not at all adapted to stumpy or rocky land. Iron framed spike-toothed harrows with teeth made of three quarter or five eighth inch iron, and the frame even lighter in proportion. Wooden framed spike-toothed harrows with the teeth curving around and pointing forwards; it would be impossible to clean them from roots, &c., by raising the harrow as is usually done.

I saw nothing to correspond to our common hoe-harrow, so indispensable in working corn; but something of similar shape though ten times as heavy and strong, with the same number of teeth or hoes; they appeared to be adapted to

four horses and are most probably used to tear up such ground as our oat stubble or cornstalk instead of plowing it. But the size of the bean required renders them objectionable.

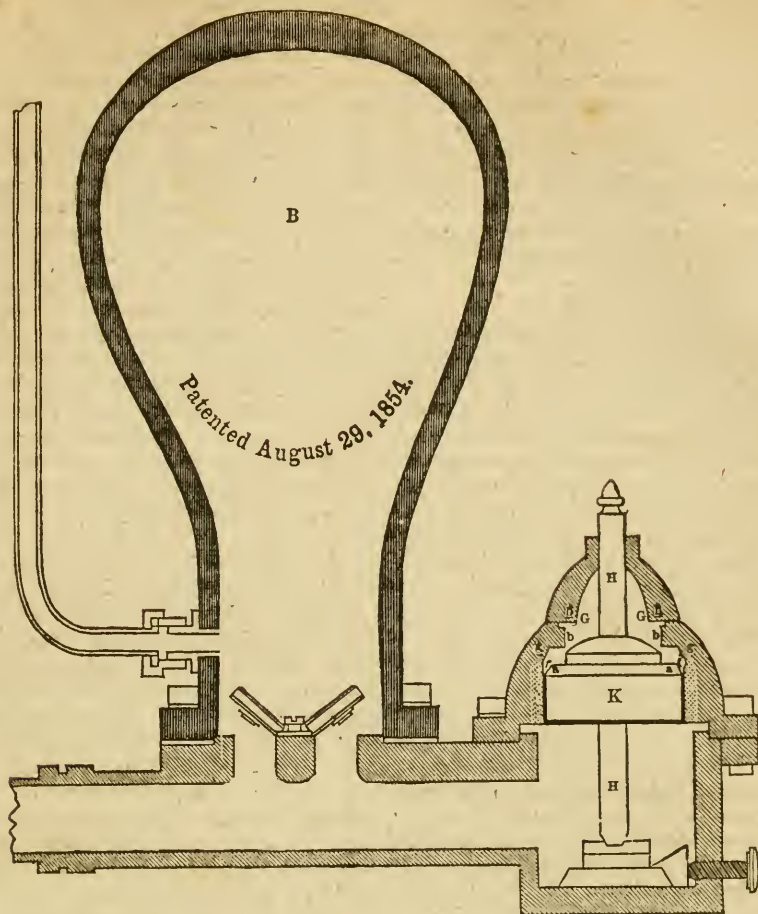
The number and variety of ploughs exhibited were quite large. Holland supplied a great number, or rather the makers of different parts of Germany, supplied the Holland article. None of them have much more resemblance to our ordinary ploughs than if not made for a similar purpose. A very small short mouldboard and short wrought iron share roughly made, and with or without a cutter attached to the beam. The bar-share plough having the coulter on its point was not here; several mouldboards were without twist, and set perpendicularly on the ground; they were made to regulate so as to stand nearer square (as in a Wiley) or more slantingly as (in a barshare) to the furrow, or beam, if we use it for comparison; but as in all ploughs with moveable mouldboards the strength was sacrificed to the desire to get motion.

As one with some experience both in making and dressing plow irons, and in using and in seeing them used when made, I would venture to assert, that the plough department presented nothing to American farmers, equal to what they now possess in their Prouty, their modification of Wiley, and the well made good old barshare &c., &c., yet it would be deeply interesting to an American farmer to see what they use here, to carry on his occupation; a great many of the ploughs have but one handle; the end of the beam, indeed almost the entire length of it to the cutter, is ironed like the tongue of a wagon, or cart, and through this iron at every four or five inches are holes, which fit around corresponding holes in the beam. The latter is straight and nearly round. It extends forwards, and raises so that the end of the beam is six or eight inches higher than the part bearing the cutter. A little axle-tree with two low wheels pass under the beam to which it is pinned, at distances from the end of the latter corresponding to the depth to which the ploughman wishes to run his plough.

Horse rakes were very indifferent. The principal structure of the winnowing mills ("fans") for cleaning grain was bad. They were heavy, clumsy, high, and very long and narrow. They had one improvement that I never saw in our American article. I think it is good, and could be easily introduced. A rod of iron was made to slip back and forth across the fan a short distance behind the hopper, or that part of the hopper through which the grain passes on to the riddle. On this rod were welded three iron rods that extended into this part of the hopper at right angles to the principal rod. The motion of the principal rod being always the reverse of the moveable bottom of the hopper, causes these rods that are welded to it to stir up the chaff, and hastens its passage through, as is sometimes done by the farmer's hand when the hopper is clogged, as often happens with not very well raked wheat chaff. The motion is communicated to this rod in the same way that it is to the riddles in our American fans. If manufacturers would think of this small improvement, I think they might introduce it with profit.

Corn shellers, straw cutters, pumps, guano spreading machine, butter churns, &c., &c., presented some peculiarities but no extra qualities. Apparatus for testing the quality of milk, the amount of cream it will produce, &c., will be interesting to American dairymen when they become chemists, and keep a small laboratory to investigate milk, and the changes produced upon it by different kinds of food, as is done here. Such apparatus was also here in considerable quantity.

A machine for making clay pipe of any desired length, I think would prove good in America. Its structure is simple, and any common hand could make the pipe. E. P.



STRODE'S HYDRAULIC RAM.

The above drawing represents an Improved Hydraulic Ram, for which a patent was granted to J. C. Strode, of West Chester, in the State of Pennsylvania, on the 29th of August, 1854. The improvement consists in such an arrangement of the puppet valve, that as the puppet valve rises, the water enclosed between the top of the puppet valve and the valve seat is made to escape at the side of the puppet valve down into the valve chamber.

The drawing represents a vertical section through the air chamber B, and the puppet valve and valve chamber K represents the puppet valve on its spindle H. G G is the top of the valve chamber. The valve K has a recess a extending around the upper portion. The recess a slides in perfect contact like a piston within the surface b b, in the top G G. The surface f f is not cylindrical but slightly conical or tapering; the top of the valve seat at g g is also made tapering at g g, so that as the puppet valve rises towards its upper seat a small annular passage will be left open between f f and g g, through which the water ordinarily retained by the recess a may escape back into the valve chamber. The velocity of this escape can be regulated by the degree of

taper given to f f. It should be a very small passage, so that the water shall escape slowly, and thus offer a graduated and regular resistance to the ascent of the puppet valve to its seat, and so prevent the shock of the puppet valve K against its upper seat b b. As soon as the puppet valve has reached its upper seat and begins to fall, the water finds its way slowly between f f and g g, and thus prevents the formation of a vacuum between the valve K and its upper seat. Thus the valve K falls without sticking. By this improvement Mr. Strode claims to attain a much higher per centage of useful effect than has been obtained by any ram heretofore in use.

J. C. Strode had previously made another improvement in ram valves for a similar purpose. In this improvement he connected the upper valve seat by a tube with the lower part of the air chamber, so that the shock of the valve is transferred directly to the air chamber, and thus was avoided. A series of small vertical tubes opening to the air, with valves kept closed by a spring, admit air and prevent the valve from sticking. This improvement was patented May 23d, 1854.

J. C. Strode also originated and patented, Oct. 4th,

1853, the application of the brachysto-crone curve to the driving pipes of hydraulic rams.

He is now engaged in constructing and erecting rams of a large size on the plan exhibited in the above drawing. One of these, weighing over 1500 pounds, is designed to raise water for the town of Media. This ram will operate under 26 feet head, the water will be raised 182 feet high, and will raise over 36,000 gallons in 24 hours, when the stream furnishes 250 gallons per minute.

More information may be obtained of the patentee by letter addressed to the Philadelphia Post-Office.

Barn-Yard Manure.

Before another issue of our paper, the yarding of stock, or putting them into their regular winter quarters, will have been accomplished. We presume at least no reader of the *Farm Journal* is so far behind the times as to leave his stock exposed to the severities and changes of the winter, unsheltered and unprotected. If there are any such, of course what we now have to say about the proper management and care of the manure heap will not be attended to by them. Barn-yards are yet empty, and before they are occupied by the stock it is all important that the necessary arrangements should be made for securing the full benefit of the collections and droppings of the winter months. There is no branch of our present farm management so erroneous, so directly, positively and unnecessarily wasteful and opposed to all true theory, as well as plain common sense, as the common practice, in this particular, even of those considered our best farmers. What is the ordinary shape of three-fourths at least of our barn-yards? Why simply an inclined plane, or gentle slope, so as to make it certain that all the drainings and liquid droppings may be carried safely away, and which contain the very essence and virtue of the manure. Is this much more rational than the not unusual practice in some parts of the west, where barn-yards are located convenient to a stream with the very object of relieving the farmer of his manure with the least trouble.

One hundred and fifty dollars now judiciously laid out in preserving the contents of the yard for the next five or six months, will, we think, be more than repaid back the coming season, and be a clear gain each year afterwards. Without now going much into the chemistry of the subject, we would only refresh the memories of our readers, by stating that animal manures soon after being dropped commence passing off into the atmosphere their most volatile and valuable ingredients, and that by this process, and by leaching during the rains and snows of winter, probably three-fourths of their real value is forever lost to the land. These should be saved by the use of proper absorbents, and by covering or shelter. Every barn-yard should be made somewhat in the shape of a plate, elevated around the edge, so that every thing would drain towards the centre, in which a shed of rough boards of the necessary width for the purpose should extend the whole length. We would leave it open on all sides but one, so that the stock might go under it if they chose. Under this shed we would have shovelled every day all the droppings of the yard, and the contents of the stalls wheeled out every morning and spread

evenly over. At least once a week, or twice a week if practicable, an equal bulk of soil from the headlands, cleanings of the ditches, swamps, or washings of the road, should be composted with it in alternate layers, having previously applied a sprinkling of plaster. At one end of the heap, which should be made with a slight inclination, a hole should be dug large enough to hold any drainage which might escape, and which, by a simple chain pump, should be pumped up and distributed evenly over it. The manure shed would now soon be found a convenient repository for all wastage from the house, leached ashes, &c., and the augmentation of the heap both in quantity and quality, from this source, would be very great. When there is once a place for any thing, it is often surprising how easily things before lost find their way there. Now by the above simple plan, not involving over \$150, the bulk of manure is not only doubled, but the strength and value to the land of the whole mass is, we think, double that of the ordinary barn-yard manure carried out in the fall for the wheat crop, and which has been exposed to all the rains of winter and hot sun of summer. Such attention to the manure heap, while it might require additional labor, would be found to pay, as it augments to the farmer what is equivalent to the gold heap of the miner — the raw material which supplies the means of obtaining whatever wealth may purchase. There is a great similarity in the two heaps, as they are neither of them, in themselves, any thing which can be used, other than as a medium for attainment. We hope our hints may not pass away unheeded, but be acted upon at once.

Shelter for Stock.

So much has been said and written upon this subject as to create, with some very careful and anxious farmers, a kind of nervousness about it, which in cases within our knowledge has impelled them into the opposite extreme from what was intended.

Stock should not be exposed during winter to the inclemencies and changes of the weather, without a chance of sheltering themselves under a shed, or in a stable: but they do not require to be constantly confined in the warm and vitiated atmosphere of our ordinary barns and stables. Nature has provided animals in their warm skins, and abundant covering of hair, with sufficient protection against cold if they are well fed. The combustion and chemical changes in the stomach, during digestion and assimilation, create sufficient heat with their natural covering to protect against any ordinary cold weather. We do not believe they suffer from simple cold if they are in health. It is the sudden changes of weather, the continued rains and snows, the deep barn-yards, often up to their knees in mud and manure, and the scarcity and difficulty of obtaining pure water, which cause cattle to fall away, or stop thriving during the winter season. Under a false impression that stock should be kept warm artificially, we have known thirty and forty head to be confined in contiguous stalls eighteen or twenty hours out of the twenty-four, in stables with low ceilings, where there was no ventilation, outside doors shut, and the air poisoned with carbonic acid and the putrid exhalations from their droppings: a state of things sure to make them tender and unhealthy, and

engender positive disease. An animal going from such an atmosphere into the pure fresh air would, of course, very naturally at first shiver, which is understood to be a sign that they cannot bear the cold, and the confinement is made more rigorous. What is considered sometimes also a great improvement is the introduction of water in pipes within the stables, so that the poor animals can have it convenient in their very mangers. This deprives them of their only chance of a little pure air once a day while being turned out for water.

Cows and calves suffer most especially from this mistaken kindness, and we believe it is sometimes the cause of abortion. We prefer our stock to be, during the whole twenty-four hours, except while eating, in the open yard, fronting the south, and sheltered on the north and east sides by good shedding. If kept well littered, as all barn-yards ought to be, they greatly prefer it to warm unwholesome stables, and go out to pasture in spring in much finer condition.

We intended the above remarks for neat cattle, but they are still more true with respect to *sheep*. To these a confined atmosphere is almost certain death.

To Save Hay and Fodder.

Owing to the extreme drought in many sections, and consequent short pastures, farmers have had to commence foddering their stock much sooner than usual. Should the winter prove severe, the supplies of provender will, we fear, be found short. It is, therefore, important to *economise* as much as possible, and if there are any of our readers who still have doubts about the *economy* of cutting hay, corn stalks, &c., we would now urge them to make trial of the plan, and let us hear from them in the spring. At the price hay is selling, a good cutter can be bought for little more than the price of half a ton, and we doubt whether next spring they would part with it for many times its cost. We believe it would save them several tons of hay and fodder. It saves in various ways, first, by preventing *any waste*. The stock cannot drag cut feed, as they would long hay or straw, out of their mangers or boxes, and destroy it under their feet. Secondly, they will reject when whole much that they will eat freely when cut up or crushed, and moistened. Thirdly, cut feed presents more points in the stomach to the action of the gastric juice, and is much easier digested. Men and animals are alike in this particular. Our own food, swallowed without mastication, is only partly digested, and does not *yield* the nutriment it otherwise would. Fourthly, animals masticate their food with less labor when cut, and have more time to rest.

In addition to cutting up their food, we would also recommend the free use of the cattle card. This is grateful to the animal, promotes the free circulation of the blood, and consequent thrift. It is particularly advisable for young stock and fattening animals, and will benefit them as much as it will horse flesh. As regards the question, which is the best cutter for hay and straw among the multitude of patents, it is really difficult to decide. Farmers have had the opportunity of judging for themselves at the late exhibitions. In New England, where all the new patents have mostly sprung from, we are informed the raw hide cylinder cutters are most in

demand. We have seen none better made, and which gave promise of durability as well as rapidity of cutting, equal to the Hovey pattern, described page 104 in our March number. One farmer informs us he has had one in use for four years, and it works as well as ever. They are sold at prices from \$6 50 to \$26, the latter being adapted for horse power, and said to be capable of cutting nearly a ton of hay per hour. Large and more powerful machines, adapted also for fodder, are Pott's cutter and crusher, an excellent article, Daniel's, Sinclair's, Whittemore's, Catchpole, and many others, which have been adverted to previously in the *Journal*.

Work for the Month.

FARM.—When it is at all practicable, ground intended for next years corn crop should be plowed and subsoiled, especially on heavy soils, that the frost may be permitted to do its part in mellowing and pulverizing. It is well known that teams are much more able to stand the continuous draft of the plow at this season, than in the spring, notwithstanding the ground may be more compact and require greater force to break it up. In this connection, we say that the Michigan double plow is better adapted to plowing sod than any other in use. Stock should be now well attended to, as it is far more easy to *keep* them in a thriving condition than to *get* them into it. The stables should be well ventilated and kept free from an accumulation of manure. A few minutes each morning will suffice to "clean" a large stable; but if the manure is suffered to accumulate for a week or more, it will require hours, while the health of the animals will be promoted or impaired, as the one or the other of these practices prevail. Cattle should have free access to water during the day. A lump of rock salt should also be at hand for them to lick at pleasure. Cows should be supplied with a few beets, carrots, or turnips each day. If the last is fed, the tap roots should be cut off as they have a tendency to render the milk bitter. Give plenty of litter, either straw or leaves, to all cattle, horses, sheep and hogs. Economise hay and straw by use of straw-cutter. Corn fodder should also be cut, before feeding, and if no steamer is at hand, empty the tough ends of the stalks, or butts, which will generally be refused by the cattle, into a large hog'shead, into which pour boiling water, and cover the top. After being softened by this process, feed with a little bran or meal sprinkled over. Have the manure, as it accumulates, collected under a rough shed in the middle of the barn yard, and occasionally throw some muck from swamps, or soil over it, also sprinkle with plaster. The drainage should be collected at one side or end, and frequently pumped or poured over the heap. Manure saved in this way is worth at least four times as much as if suffered to be scattered over the barn yard. Avoid turning cattle in pasture fields in "soft weather." Open drains, ditches, &c., that the superabundant water may be carried off without occasioning gullies, &c. See that all implements are properly housed. When the ground is frozen haul fuel, and have it properly prepared for the fire and kept under cover.

FRUIT ORCHARD.—Attend to general directions of last month. Bank up the earth around your trees to keep off mice. Dig in manure, or guano when the ground is not

frozen. Take advantage of open weather, to prepare for spring planting, by deep plowing and subsoiling. Where the object of pruning young trees is to promote growth, now is the proper time. The amount of food collected by roots through winter is thus confined to the remaining branches instead of being distributed throughout the tree and lost.

FLOWER GARDEN.—The principal work for the garden this month, will be cleaning borders and removing decayed plants and weeds, renewing walks, tying up to stakes and protecting half hardy plants and shrubs. Running roses should be secured firmly to their stakes or trellises, to preserve them from being broken by storms. Chromatellas, Solitaires, and similar roses not perfectly hardy, should be well covered with straw or cedar boughs. Teas and other dwarf varieties may be protected with cedar boughs tied together at the top. Mulch well all roses and plants with short manure. Tie up junipers and other bushes with straggling branches.

Persons wishing early blooming plants in the spring may keep them through the winter in cold frames. Dig out a hole a foot deep of the size required, and fit in a box, sloping to the south if possible, two feet deep at back and 18 inches in front, bank up the earth from the hole on the outside, lay a bed of coal ashes in the bottom, to make the drainage and prevent ingress of worms. Cover with sash, and protect in severe weather with straw mats and shutters. Verbenas, Primroses, Polyanthus, Pansies, Petunias, &c., will keep nicely in this way, and bloom early.

See that plants in windows are not killed with watering. The *only rule* for this, is appearance of soil in pots. Water only when it appears dry. Keep them near the light and turn round occasionally. The farther plants are from the light the less water they require. Change the water in hyacinth glasses, every week or ten days.

VEGETABLE GARDEN.—Attend to directions of last month. Finish covering with straw or litter everything that needs protection. Commence composting manures, so as to prepare them for spring use. Attend to arranging and securing all such seeds as will be required for spring planting.

Domestic Recipes.

TEMPERANCE MINCE-MEAT.—Take three pounds of the lean of a round of fresh beef, that has been boiled the day before. It must be thoroughly boiled, and very tender. Mince it, as finely as possible, with a chopping knife; and add to it two pounds of beef-suet, cleared from the skin and filaments, and minced very small. Mix the suet and the lean beef well together; and add a pound of brown sugar. Pick, wash, and dry before the fire, two pounds of Zante currants. Seed and chop two pounds of the best raisins. Sultana raisins have no seeds, and are therefore the most convenient for all cookery purposes. Grate the yellow rind of three large lemons or oranges into a saucer, and squeeze upon it their juice, through a strainer. Mix this with the currants and raisins. Prepare a heaped-up table-spoonful of powdered cinnamon; the same quantity of powdered ginger; a heaped tea-spoonful of powdered nutmeg; the same of powdered cloves; and the same of powdered mace. Mix all these spices into a quart of the best

West India molasses. Then mix well together the meat and the fruit; and wet the whole with the spiced molasses; of which you must have enough to make the mixture very moist, but not too thin. If you want the mince-meat for immediate use, add to it four pounds of minced apple. The apples for this purpose should be pippins or belle-fleurs, pared, cored, quartered, and chopped fine. Add, also, half a pound of citron, not minced, but cut into long slips.

If you intend the mince-meat for keeping, do not add the apple and citron until you are about to make the pies, as it will keep better without them. Mix all the other articles thoroughly, and pack down the mince-meat, hard, in small stone jars. Lay upon the top of it a round of thin white paper, dipped in molasses, and cut exactly to fit the inside circumference of the jar. Secure the jars closely with flat, tight-fitting corks, and then with a lid; and paste paper down over the top on the outside.

West India molasses will be found a good substitute for the wine and brandy generally used to moisten mince-meat.

INDIAN CRUMPETS.—A quart of Indian meal.—Half a pint of wheat flour.—A quart of milk.—A heaping salt-spoonful of salt.—Three eggs.—Two large table-spoonfuls of strong fresh yeast.—Warm the milk. Sift the Indian meal and the flour into a pan, and mix them well. Then stir them into the milk, a handful at a time; adding the salt. Beat the eggs very light in another pan, and then stir them, gradually, into the milk and meal. Lastly, add the yeast. Stir the whole well; then cover it, and set it to rise in a warm place, such as a corner of the hearth. When it has become very light, and is covered with bubbles, have the griddle ready heated to begin to bake the cakes; first greasing the griddle. For each crumpet pour on a large ladle-full of batter. Send them to table several on a plate, and as hot as possible. Eat them with butter, to which you may add molasses or honey.

If the batter should chance to become sour by standing too long, you may remedy it by stirring in a level tea-spoonful of pearlsh, soda, or saleratus, dissolved in a very little lukewarm water. Then bake it.

CORN MEAL BREAKFAST CAKES.—A quart of Indian meal.—A handful, or more, of wheat flour.—A large salt-spoon of salt.—A quart of warm water.—An additional pint of lukewarm water.—A bit of pearlsh the size of a hazle-nut, or the same quantity of soda or saleratus. Mix over night, in a large pan, the Indian meal, the wheat flour and salt. Pour on gradually a quart of warm water, (warm but not hot,) and stir it in with a large wooden or iron spoon, so as to form a very soft dough. Cover the pan, and set it on the dresser till morning. In the morning thin the dough with another pint of warm water, so as to make it into a batter, having first dissolved in the water a salt-spoonful of powdered pearlsh or saleratus, or a bit the size of a hazel-nut. Beat the mixture hard. Then covel it, and let it stand near the fire for a quarter of an hour before you begin to bake it. Bake it in thin cakes on a griddle. Send them to table hot, and eat them with butter, and molasses or honey.

STEWED BEEF'S TONGUE.—Take a fresh beef's tongue

of the largest size. Remove the little bones, skin, &c., from about the root, and trim it nicely. Take a table-spoonful each of salt, pepper, and powdered cloves, and mix them all together. Rub the tongue well all over with this seasoning. Lay it in a deep earthen pan, cover it with the best cider vinegar, and let it stand three days, turning it frequently, and keeping it closely covered. Then (having wiped off all the seasoning) put the tongue into a stew-pot, and add half a pint of water—not more—and stew it slowly till quite done. Have ready some force-meat balls, made with minced veal, mixed with the ingredients usual in force-meat. Put in the balls about twenty minutes before you take up the tongue. When it is thoroughly done, and tender all through, peel it, and send it to table with the force-meat balls round it.

CURING PORK.—A correspondent of the American Farmer gives the following method of curing pork:—Place tiers of shelves two and a half feet apart on three sides of your smoke-house, making their bottoms of strips three inches wide instead of wide planks, so that air may be admitted to the bottom as well as the sides and top of the pork. In packing down, place a row of middlings first on the shelf, next one of shoulders, and lastly, the hams on the top. This is as much as I ever put on one tier of shelves. Proceed in like manner till the whole is packed. Use five pecks of salt in the 1000 lbs. if the hogs are large, and if small, one bushel to the thousand will answer; mix equal parts of powdered saltpetre and red pepper, and apply a table-spoonful to each of the joints before the salt is put on; but if the pork is small, half that quantity will be sufficient. If the weather is moderate, six weeks will be long enough for it to remain in salt; if very cold, let it stand two weeks longer.

When the time arrives for hanging up, sift some clean hickory ashes, and after having put the strings into the joints, brush or wipe off the salt, (never wash,) and apply a coating of fresh ashes to the flesh side of each piece, and hang up carefully; the middlings need no ashes—let it hang three or four days, and dry before you begin to smoke. After that, make one smoke a day only for ten or twelve days. In the month of March take down your joints, and put them into bags made of thin cotton cloth, carefully tying each bag around the string by which the pieces of meat were hung up. Hang up again and let it remain till wanted for use.

CURING HAMS.—To every 1000 lbs. of hams, take eight ounces of saltpetre, two quarts of molasses, and two quarts salt; mix with water. After settling for two or three hours before introducing the hams, rack off, and throw out the sediment from the bottom; cover the meat with the brine, and repack once a week, changing the position of the hams. In six weeks, the hams may be taken to the smoke room. After smoking, they may be returned to the brine, and kept through the summer. If preferable the meat may remain in the brine, and be taken out and smoked as it is required for use. It will be found always in excellent condition, and is, when smoked, an excellent article.—*Ger. Tel.*

Straightening a Colt's Tail.

A correspondent of the *Boston Cultivator*, who had a

very fine colt that carried its tail to one side, and was continually throwing it over the driving lines, says he cured him of this habit by braiding a loop in his tail and tying it with a string to the trace on the same side on which he carried it, and when he found it was tied, he would pull on it, when I would let him up a little gradually on the string, until at length he came to carry his tail perfectly straight.

This remedy is something like we frequently see boys apply to stubborn hogs, by pulling the tail in a direction contrary to the one they desire the animal to move.

The Curculio.

A correspondent of the *American Farmer* gives the following as his experience in the use of wrappings of "cotton laps" as a remedy for the curculio. If any of our friends have had any experience in this matter we shall be happy to hear from them:

"Some time since I saw in the *Maine Farmer* a remedy for the curculio, which I tested at the time with unexpected success. It consisted of three bands of cotton fastened around the tree at intervals of about one foot. It did not prove to be a perfect security against that pest of all plum trees, but enabled me to save the greater part of my plums, and encouraged me to do a little something to renovate my trees, which, since the appearance of the curculio had been growing in sward land. Accordingly I dug up the ground around them, and removed the turf from all save one to the hog pen. From that tree I gathered about one peck of plums infected with the bug, also a bushel of sound fruit, (it being a small tree,) while from the others the fruit was all sound. I allowed the cotton to remain on the trees the year round, taking no trouble to renew or repair it after it was put on. I am now nearly rid of the "critter;" indeed, I have not been able to find one upon my trees this season. And when examining the cotton have found but three eggs.

The trees look finely, and are already bending under their burden of fruit. If, in any case, cotton has failed to protect any body's plums, I am persuaded it is because they have been too stingy of it.

The best way is to buy batting and split it in two several times, then cut into stripes three or four inches wide and wind around the trunk of the tree, twice at least, and tie with a piece of twine on the upper edge. Three bands at least should always be used, and more would be better, unless the land is in grass, in which case the sods can be removed, together with the larvæ, which spend the winter in the earth directly under the tree."

A Glance at Pennsylvanians and their Farming.

Our friend M. B. Batcham, Esq., of the *Ohio Cultivator*, who recently attended our State Fair, gives the following sketch of "Pennsylvanians and their farming:"

In passing through the State of Pennsylvania from Pittsburgh to Philadelphia by railroad, the first half of the distance is mostly through a hilly or mountainous country, presenting a good deal of wild and romantic scenery but not much chance for cultivation. The other half of the route, from the vicinity of Harrisburg to Philadelphia, on the other hand passes through one of the

most productive and highly cultivated districts that can be found in the Union.

After "crossing the mountains," or about 150 miles east of Pittsburgh, the road enters the valley of the Juniata river and follows its windings to its confluence with the Susquehanna. There are many fertile slopes and fine farms with substantial old dwellings and spacious barns along the Juniata; but the greater portion of the land, especially a little distance from the river appears too poor and hilly to be worth cultivating. On approaching the Susquehanna the prospect rapidly improves, and the barren hills are less frequently seen, while fine farms and frequent towns along the valley bespeak fertility and wealth.

Our train of cars failing to connect at Harrisburg gave us half a day for inspecting that place and its vicinity. The city is not as large as we expected to find the capital of the State—not more than half as large as Columbus—and has but few public or private buildings deserving of notice. The Lunatic Asylum is a handsome and spacious establishment, and the most conspicuous building in the vicinity. The river, canal and railroad passing right through the city, and the abundance of coal and iron, give the place very good facilities for manufactures.

A short ride from Harrisburg brought us into the county of Lancaster, which together with the adjoining county of Chester, are so noted for fine farms and thorough farmers, nor does the reality at all disappoint the high anticipations of the traveler, for certainly we have no where else in America seen such general evidences of thoroughness and skill in farming as here met our eyes. The abundant yield of the corn crop just harvested, and the sleek looking herds of cattle in the meadows, gave proofs that the skillful labors of the farmers were well rewarded, notwithstanding the general drought of the season.

Wheat culture is practiced here with more skill and industry than is often witnessed in Ohio, as was evinced to us by the beautiful appearance of the newly sown fields with the young wheat plants just appearing in green rows and showing the almost universal use of the *drill* as well as finest harrows and the roller. We noticed also that very many of the wheat fields gave evidence of the application of lime and other kinds of manure directly for this crop, and we were told that the use of guano and artificial manures is beginning to be practiced considerably in the eastern part of the State, and more still in New Jersey. Machines for spreading these manures along with the seed, as done in England, are coming into use here, and are for sale at the implement stores.

The costly barns for which the farmers of eastern Pennsylvania are every where noted, are a marked feature in the agriculture of Lancaster and Chester counties, and while we admit that many of our Ohio farmers are sadly negligent in this respect, we could not avoid feeling that much of the money spent on these structures here, might have been used to better purpose.

The value of good farming lands in eastern Pennsylvania is much greater than Ohio, and more of skill and labor is bestowed on their cultivation. Clean and thorough tillage, and a liberal use of manures are the essential elements of successful agriculture here, as all other coun-

tries where the virgin fertility of the soil has been exhausted. The natural fertility of the soil—its almost spontaneous productiveness in our western States, is the principal cause of the slow progress of scientific farming amongst us. But the time will soon come, and now is, in many parts, even of Ohio, where the farmers must till their lands more scientifically or quit them, (as some of them are now doing,) and give place to those who have more intelligence and industry.

From Philadelphia we took a ride to Germantown, to visit our old friend, Jas. Gowen, Esq., whose farming and fine cattle, &c., have been noticed in previous volumes of this paper, and than whom we know not a more intelligent agriculturist in the United States. His new dwelling house at Mt. Airy, is one of the most beautiful and perfect specimens of rural architecture to be found, and the gardens and other surroundings all bespeak cultivated taste and skill, combined with wealth and a disposition to enjoy the blessings of rural life. We were glad to find Mr. G., in better health than at the time of our visit 3 or 4 years ago, and manifesting more of his former enthusiasm in agricultural pursuits. His farm, consisting of over 100 acres, is in a high state of cultivation and although not naturally rich, he manages to obtain such crops as astonish those who witness them, and his Durham cattle and white Berkshire pigs excite admiration wherever exhibited. We have on former occasions spoken of Mr. G.'s remarkable crops, and his method of producing them, also of his extraordinary cows.

Docking Horses Useless and Barbarous.

We find the following in several of our exchanges without credit, and without knowing its paternity most cordially adopt it:

We are glad to see that the abominable practice of docking and nicking horses is getting out of fashion. It prevails in no country in the world but England and the United States; we got it from the mother country and the sooner we leave it off the better. It is wonderful how anybody but an ignorant, narrow-minded block-head of a jockey, should ever have thought of it, being as offensive to good taste as a violation to every humane feeling. Has nature done her work in such a bungling manner in forming that paragon of animals, the horse, that he requires to have a large piece of bone to be chopped off with an axe, to reduce him to symmetry—or that beauty and grace can be obtained only by cutting a pair of its large muscles?

"The docking and nicking of horses," says an intelligent writer on farriery, "is a cruel practice, and ought to be abandoned by the whole race of mankind. Every human being possessed of a human heart and magnanimous mind, must confess that both the docking and nicking of horses is cruel; but that creature called man attempts thus to mend the works of his Almighty, wise creator—in doing which he often spoils and disfigures them. What is more beautiful than a fine horse, with an elegant long tail and flowing mane, waving in the sports of the wind, and exhibiting itself in a perfect state of nature? Besides, our Creator has given them to the horse for defence as well as beauty.

The same author relates an instance of a fine hunting horse owned by an Englishman, which could carry his

ride over a five barred gate, with ease; but he thought the horse *did not carry as good a tail* as he wished,—he therefore had him nicked and when the horse got well he could scarcely carry him over *two bars*. “Thus,” said he, “I have spoiled a fine horse; and no wonder for it weakened him in his loins.” Any man of common sense would give ten per cent. more for a fine horse whose tail had never been mutilated, than for one which had been under the hand of a jockey.

Milch Cows.

The editor of the New England Farmer justly remarks: “If you desire your cows to yield liberally to the pail, you must feed them with something better suited to the secretion of rich milk than dry provender. Chopped roots, or meal slops of some kind, should be given them twice a day, at least, say morning and evening. They should also be provided with littered beds, dry lodgings—moderately warm—be regularly watered thrice each day, just before being fed,—be curried or combed once a day, and salt, with occasionally a little ashes or fine bone dust mixed, two or three times a week. They also like a *variety* of food. Roots, cut or rasped, and mixed with cut hay or straw, then stirred and left for an hour or two, make a mess which they will eat very greedily. We think that hardly attention enough is given to the *bedding* of cows, as the more quiet and comfortable they are, the less food will be required to sustain the system, and may therefore go to produce flesh or milk. A gentleman who has employed several pairs of working oxen for many years, states that oxen will travel fifteen miles a day, being well “littered down” at night, as easy as twelve miles, and lie upon the bare floor. If this statement be correct—and it seems to us consistent—it is a pretty important matter that all our cattle are well provided for in this respect.”

Mode of Using Guano.

Many farmers, not accustomed to the use of guano, rely on the statements of the vendor, or of a neighbor, or any other person who will give advice as to the best method of using it, the best articles to mix with it, &c.; and not unfrequently are led into very grave errors, which a little reflection would have caused them to avoid. The advice of no man should be followed when it is contrary to the uniform result of scientific experiments, or to common sense. No constant reader of the *Farm Journal* would ever be guilty of mixing guano with a class of materials only calculated to set free its ammonia. But as some of our new subscribers may not be posted on this subject, we append an extract from a communication by Prof. Benj. Hallowell to the *Virginia Sentinel*. He says:

“I may state, that it is entirely opposed to chemical principles to mix live-ashes, or quick-lime, with any animal manure. Ammonia, the chief valuable characteristic ingredient of animal manures, is usually found in these manures in combination with some organic acids, and these acids, owing to the generally stronger affinity, unite with potash and lime when they are present, and liberate the ammonia, thus rendering the manure of much less value.

“But this is not the only injury. The liberated am-

monia unites with the acids in the soil, as the humic, erenic and apo-erenic acids which are almost insoluble, and forms compounds readily dissolved and washed from the soil by the rains, greatly depriving it of those constituents upon which its fertility chiefly depends.

“It is the deteriorating effect arising from the escape of the ammonia, and the soluble compounds it forms with the organic acids in the soils, that indicate the propriety of mixing plaster with guano to “fix” the ammonia, previous to sowing it on the land. The first crop may be none the better thereby, and, in some rare instances, *possibly* not quite so good; but the land will always be in a state more favorable to the growth of subsequent crops.

“I will take this occasion to repeat, that I regard the discovery of guano, and its introduction into our country, *as a great blessing*, by increasing the fertility of our soils, and affording the means of improving many lands, otherwise in a state of hopeless sterility. But we must not depend upon the use of this, as the settled policy of farming, *to the neglect of our home manures*. It is opposed to every principle of political economy to send as far as half the circuit of our globe for guano, and neglect equally, or even more valuable manures, on our very premises, and in our neighboring cities.”

Experiments with Carrots in Feeding Milch Cows.

Abner Haven communicates the following experiment on the value of carrots as food for milch cows to the *Wool Grower*:

“I have tried feeding carrots to milch cows, and will give you one of my experiments. I have (April 15th) seven cows in milk—one calved in June, the rest in September and October. I raised 80 bushels ruta bagas and 400 bushels carrots, and fed them to my cows, commencing the first of December. I gave them about 2½ bushels per day, at noon, the ruta bagas first, and when they were all fed out, the same quantity of carrots. I found, when I had fed the latter a few days, that my cows were each giving from two to three pints of milk more per day than when fed on ruta bagas. I was feeding my cows, meanwhile, with cut hay, and 2 lbs. oil cake meal, and 2½ lbs. wheat screenings, ground.

“The thought struck me that I should like to know the value of carrots for making milk, so I selected the cow that calved last for the trial. I weighed the hay, meal and carrots, and fed per day 27 lbs. of hay, 4½ lbs. of the mixed meal, and 22 lbs. of carrots, and she gave 35 lbs. of milk per day. I then left off the carrots, and gave the same amount of meal, and all the hay she would eat, which was 35 lbs. per day. After feeding so for a week, I found she gave 23 lbs. of milk per day. I then gave her the carrots as before, and in eight or ten days she came up again to 35 lbs. of milk per day.

“This shows that carrots are worth to me to feed to cows 82 cents per 100 lbs. Hay is worth \$20 per ton in the barn, and at 3 cents per quart, or 1 cent per lb. for milk, 6 lbs. less hay, and 12 lbs. more milk gives 18 cents for 22 lbs. of carrots.”

Save Your Bones.

It is well known that bones are valuable as a manure. Instead of being thrown away by the cook as is usually

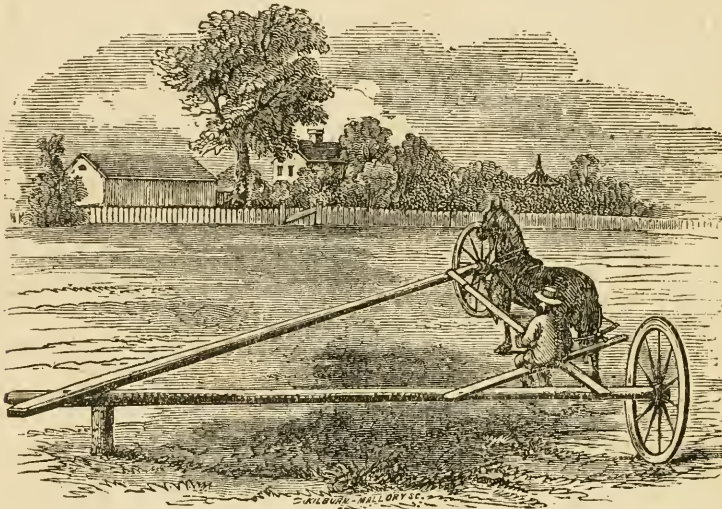
the case, they should be collected into a heap, and covered with wood or coal ashes and exposed to the rain and atmosphere. In a short time they will crumble into powder, when the mass should be worked over, and you have a preparation equal to any of the patent fertilizers extant. Almost every farmer might, with care, make a half ton of this manure, the ingredients of which are now lost.

Sowing Locust Seed.

In many parts of the country timber is becoming very dear, and farmers who have to buy their posts and rails, find it a heavy drain upon their purses. Such being the case it is a matter of surprise that more attention has not been paid to planting trees suitable for fence timber.

The yellow locust, it is well known, when planted in rich ground is a rapid grower, and, posts made of it well seasoned will last for a great length of time. The

American Farmer gives the following directions for planting and replanting:—The ground to be selected should be a deep, well-exposed loam; it should be manured, ploughed deep, harrowed, and the seed sown thinly, in drills two inches deep, four feet apart. Before being sown, the seed should be soaked in warm water for twenty four hours; all the seeds which float to be cast aside. The plants, when they come up, must be kept clean. At one and two years old the young trees will be fit to be transplanted. They should then be set out in a deep, warm soil, which has been well manured, ploughed, and harrowed, in rows twelve feet apart, ten feet asunder in the row which will give to each acre 363 trees. In twelve years they will be large enough for posts and we all know that they make durable ones. A grove once set will, after being cut down, renew itself, and furnish a new supply of post timber every twelve or fifteen years. A small grove, therefore, would supply a large farm with posts.



COLT BREAKER.

We are indebted to the New England Farmer for the above engraving, representing a plan for breaking colts, which we think must commend itself to every reader. Although it "speaks for itself," we append the description and experience of the inventor:

EXPLANATION OF THE DRAWING.—A post set firm in the ground, and rising three feet, with a shoulder three-inch round tenon or pivot at the top.

Two straight, rough, hard wood poles, thirty feet long, eight inches in diameter at the butt ends, and four inches in diameter at the tops. One of these poles is confined on the top of the post, six feet from the butt end, by a round mortice, three and a half inches in diameter. The other pole is lapped into the first, near their butt ends, made fast by locking, and by a two-inch pin.

The hind wheels of a lumber wagon, fitted on the ends of the poles.

Crossbar, a rough pole twelve feet long, bolted at each end on the long poles, four feet from the wheel hubs.

Rough pole, bolted on one of the main poles and on the cross bar, to support the whipple-tree.

An augur hole bored through the forward pole, in which is fastened a rope for confining the pole strap of the harness.

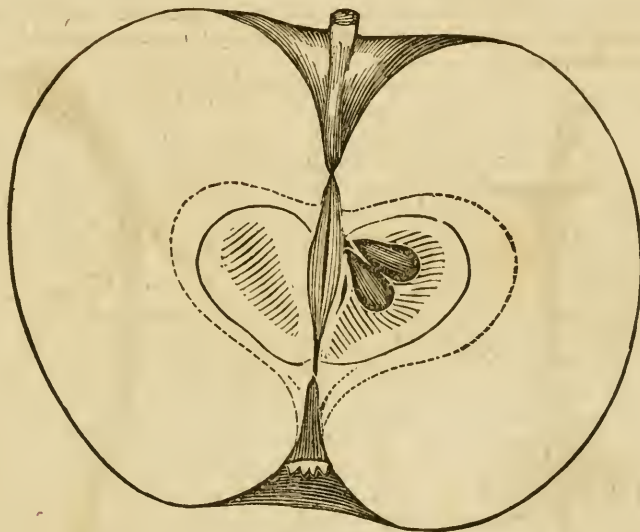
"A little more than one year since, having three fine colts that were wholly untutored, I adopted a new expedient for bringing them into subjection, which succeeded to a charm. Several of my neighbors availed themselves of the privilege gratuitously offered them by the use of my apparatus in breaking their colts, and in every case they were delighted with the ease, safety and thorough success of the scheme. Last autumn, having bought another large and vigorous colt of three years past in age, and wishing to bring it under subjection, I resorted to the same method that was found so effectual last season, which has been equally satisfactory, both to myself and my neighbors, who have either availed themselves of the use of the apparatus, or have witnessed its operation; and in compliance with their suggestion, I

send you a drawing of the *run-round*, now in rig in my yard for breaking colts. To the machine thus completed I harness the colt, I care not how ugly or ungained, buckling the pole strap so short that he will have no slack harness; then tying his halter to the cross-bar, I pull off his bridle and let him have a fair chance and his own course. He never runs at first, for fear of the wheel before him, but alternately trots and stands still. After the colt has been harnessed an hour or so, I seat myself astride the rear pole at the point where the inner end of the bar supporting the whipple-tree is attached, when he generally starts off at a rapid speed; I retain my seat until the colt comes to a stand, which is always after he has been from six to twenty rounds. I then feed him a handful of oats, and put a wisp of hay in the rope which confines the pole strap, and leave him to pursue his own course. He should be kept harnessed in this way through the day, being visited frequently with the oat dish, and supplied with hay, where he can help himself at will.

"The second day let the colt be bridled, with leading lines attached, and feed a few oats as soon as harnessed, then left for some time to promenade at his leisure, then drove, and taught to start and stop at bidding. After being drilled in this way for half an hour, make fast one of the wheels to a post a little outside of the range, and leave him for an hour or more, thus teaching him to stand; keep him harnessed through the day, occasionally feeding, driving, backing, and teaching him to stop and to stand still, but using no harsh measures, for none are needed. After three such days of training, I have always succeeded in making a colt completely manageable, and hesitate not to take my wife on board a cutter or wagon for a ride, having done so repeatedly. I consider the above method for breaking colts cheap, safe, expeditious and effectual, and those who have examined the affair, say that a colt broken to go in that machine will go anywhere."

The machine is so simple that any one can construct it.

CHOICE FRUITS.



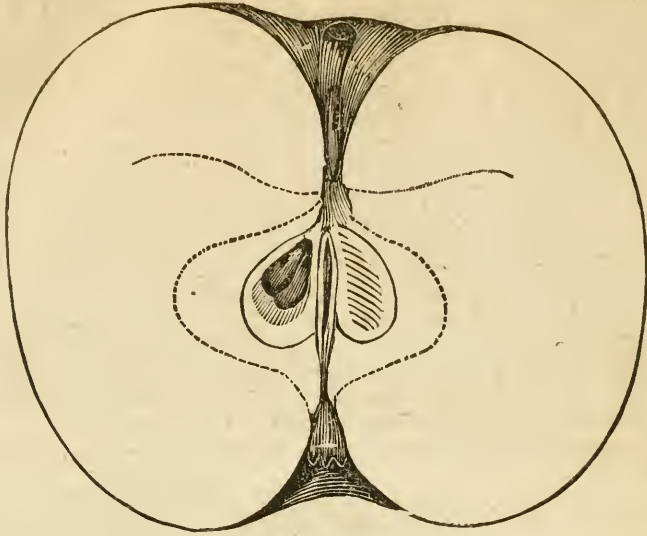
No. 1.—WAXEN OR GATE, WHITE APPLE, BELMONT.—This very superior fruit, whose history for a while was involved in much uncertainty, is now settled to be of Pennsylvania origin, and will no doubt be found well adapted to our soil and climate. It is more known in Ohio than here from where it was first taken. We first saw it at the National Pomological Convention in New York, and were much attracted by its fine size and beautiful appearance, having a clear skin, with a peculiar waxy or oily appearance, and bright vermilion red cheek. It is a most showy fruit, and from this no less than its fine eating qualities, is worthy of extensive cultivation.

Size, medium to large, form irregular, usually roundish, sometimes oblong rounded; *skin* thin, smooth glossy or oily color, rich light clear yellow, with a clear vermilion red cheek, with carmine spots; *stem* medium slender, calyx small sometimes open, but often closed; *basin* shal-

to deep furrowed; *flesh* yellowish white, fine grained, very tender, juicy sprightly sub-acid, core rather large; ripe November to February.

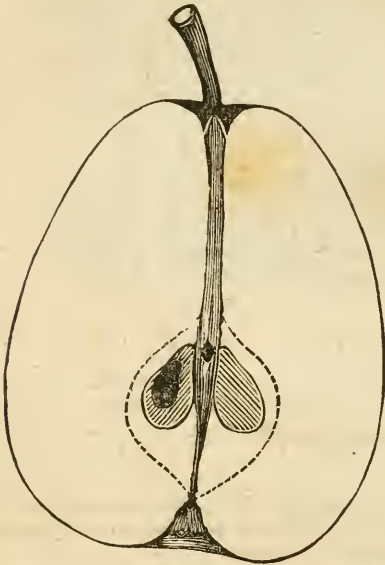
No 2.—RHODE ISLAND GREENING.—This apple is widely known, and as universally esteemed, for its general fair and smooth appearance, great productiveness, and value either for the table or cooking. Thousands of barrels are brought to Philadelphia market, from the north and east, and probably no variety is much more in demand. It seems to succeed well on all soils and localities, the tree being a strong though rather crooked grower. Our engraving is taken from Elliott, but in the generality of specimens the stem we think is somewhat carved, and thicker at the bottom.

Fruit large, roundish, somewhat flattened; skin oily, smooth dark green, pale or yellowish green when ripe with a dull blush near the stem; calyx small, wooly,



closed, in a shallow slightly furrowed basin; flesh yellowish, fine grained, tender, slightly aromatic, lively acid juice; ripe November to February.

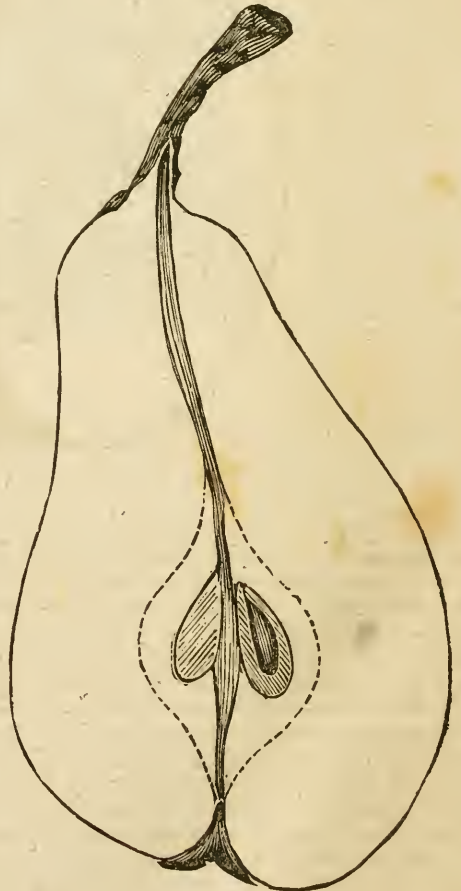
middle of September. Growth moderate, with slender diverging reddish brown shoots.



No. 3.—WASHINGTON PEAR.—This is one of our finest pears either native or foreign, and we should hesitate to say that in this locality it is *second* to any other. It was discovered on the estate of Col. Robinson, near Naamans creek, Delaware, about 50 years ago, and where it is said the original tree is still standing, and bearing several bushels annually.

It does not succeed well on the Quince.

Fruit medium size, oval-obvate, regularly formed; skin smooth clear, lemon yellow, with a sprinkling of reddish dots on the sunny side; *stalk*, about an inch and a half long inserted even with the surface, or with a slight depression; *calyx* small, partly closed and set in a shallow basin; *flesh* white very juicy, melting, sweet and agreeable



No. 4.—VICAR OF WINKFIELD, LE CURE'.—This very large and productive pear was found, as a seedling, grow-

ing in the woods of Clion, France, by a French curate, whence its name. It is not of the first quality, but pronounced "very good," by the National Pomological Congress. Its fine size, great productiveness and hardness, either on pear or quince, will however make it a desirable variety, especially as a market fruit. Occasionally in some soils and localities it is found of fine flavor, but rather astringent.

Shape, long pyriform, a little one sided, *skin*, fair and smooth, pale yellow sometimes with a brownish cheek, and brown dots. *Calyx* large, open, in a basin slightly sunk; *flesh*, greenish white juicy sprightly and sometimes bitter, November to January.

Travelling Agents.

John Moore, who is now canvassing in Berks and Lebanon counties, will proceed shortly to canvass Erie, Crawford, Mercer, and Lawrence counties.

Joseph M. Hawley will canvass Bucks and Montgomery counties.

Jonathan Dorwart is our general agent for Lancaster county.

W. H. Wagner, who is the traveling agent of some of the Lancaster papers, has been authorized to receive and receipt for subscriptions in Dauphin, Lancaster and York counties.

Elwood Eastlack is at present canvassing in New Jersey.

Joseph Reid is at present in Washington county.

There are several other gentleman authorized to solicit subscriptions while traveling in connection with other business. We trust our friends in different parts of the country will give our agents all the "material aid" possible.

Will Acorns Kill Cattle?

It may seem superfluous to ask this question, at this day, in a country where cattle have had more or less access to them every fall for a hundred and fifty years, yet we put it in all seriousness, and ask any of our readers having a knowledge of the subject to communicate to us. Our reason for making the inquiry is to ascertain, if possible, the truth. We are prompted to it at this time by the fact, that Mr. Richard Lamborn, a highly respectable farmer residing a few miles from this place, recently lost fourteen head—seven oxen, four cows, and three steers—under peculiar circumstances; and the concurrent opinion of himself, his neighbors, and neighboring physicians who took an interest in the subject is, that they were killed by eating excessively of acorns.

The facts of the case are substantially these. One of Mr. Lamborn's pasture fields contains a grove of about four acres of timber principally white, black, and chesnut oaks.

These oaks, produced the present season a very heavy crop of acorns. His cattle were pasturing in the field containing this grove, during September and the early part of October, and eat of them freely. About the 25th of September one of his best oxen died; soon after another was observed to be unwell, and very heavy doses of purgative medicines were administered, but without effect; and in less than a week from the first appearance of disease, the animal died. Another and another followed, until

Mr. Lamborn became alarmed, and set about learning the cause in earnest.

A neighboring physician carefully examined the stomach and intestines of the dead animals, but no trace of poison or its effects were found. The "melt" was somewhat enlarged, also the gall bladder, and the contents of the latter were much thicker than in health. The stomach and intestines had the appearance of suffering from powerful astringents. Considerable quantities of acorns were found in the stomach, and as these were known to be powerful astringents, and reasoning from effect to cause, the opinion prevailed, that the acorns were the probable cause of death.

Mr. Lamborn informs us that the veins of the carcasses appeared almost bloodless—similar to those of a well stuck bullock—and that the cows failed of their milk suddenly, falling off from a gallon to a pint in a single night.

The first indications the animals gave of being amiss were watering at the eyes, drooping the head, and spiritless walk. Although many remedies were applied none were successful. The animals did not appear to be suffering any pain; they eat for several days after the first appearance of the disease, but invariably died in a week from the first attack.

So fond were the cattle of the acorns, that as soon as put into the field in the morning, they would scamper off to the grove and remain there most of the day. The ground is yet almost covered with the "cups" and hulls of the acorns eaten by the stock.

We need scarcely say that as soon as it was suspected that the acorns were the cause of the disease, the remaining cattle were put in another field, and we may add, that none have died, which were not sick at the time this change was made.

We have heard of one or two other farmers losing stock from a similar disease recently but have learned no particulars. We have also heard that there are parts of the country where acorns are esteemed injurious to cattle, but such has not been the opinion in this section.

Vine Culture.

As considerable districts in Pennsylvania, Delaware and New Jersey, are adapted to the growth of the grape, and as this fruit will always find a ready sale at large prices in the cities and large towns, we have condensed from an excellent little work by Robert Buchanan, his statement of the cost of planting a vineyard of six acres, the expenses of its culture, and probable yield.

1st Cost of a vineyard of six acres, containing fourteen thousand four hundred vines:

Trenching two feet deep, \$65 per acre,.....	\$390
Sodding avenues,.....	60
Cost of 30,000 cuttings, at \$2 50 per thousand,....	75
Planting,.....	70
Fourteen thousand five hundred locust stakes, at \$3 per hundred,.....	435
Setting 14,500 stakes,.....	55

\$1,085

The vineyard being on a gentle declivity did not require *benching*, which would have been more expensive than the draining by sodded avenues—nor did the

ground contain stone enough to add to the expense of trenching, which, in some positions, is a very serious item.

By proper economy, a man may have a vineyard of several acres in a few years, without feeling the expense to be burdensome. Commence by trenching one acre in the winter, and planting it out in the spring; next year another acre, and so on for five or six years. After the third year, he will have his own cuttings from the first acre, and also grapes enough to pay for the cost of planting the succeeding additions to his vineyard.

2d. Cost of attending a vineyard :

Cost of attending the first year—vine-dresser \$216, and a hand for one month, \$15 (and board themselves),.....	\$231
Second year—vine-dresser, \$216, a hand for two months, at \$15 per month,.....	256
Cuttings, after first year, to replace failures, say,...	20
Hauling, carting, etc.,.....	68
Contingencies, etc.,.....	150

Total cost for attending in first and second years, \$725

3d. After culture :

To the proprietor or the tenant who is his own vine-dresser, this will be small, especially if he has a family that can assist him; but to those who have to hire every hand, the following statement will be found pretty accurate. For a vineyard of six acres—

Vine-dresser per year, and board himself,.....	\$240
Hands to assist in pruning, say,.....	25
“ “ “ spring culture,.....	40
“ “ “ summer culture,.....	55

Or \$60 per acre, \$360

If the cuttings can be sold at \$2 to \$2 50 per thousand, it will reduce this about \$100.

4th. Probable product of an acre per annum :

This of course will vary with the season, and with the number of vines to the acre.

At the distance of 3 by 6 feet 2,420 vines are planted in an acre. They will yield, in fair seasons, 75 to 100 bushels; in very good years more. A probable average for eight or ten years, with but little rot, would be about 65 bushels—and with a reasonable allowance for rot, frost, &c., 50 bushels might be expected as a fair product per acre for a series of years. This is also Mr. Longworth's opinion. But even then, bad seasons must not be too frequent, or the average will be still further reduced. In the report of Dr. Flagg, May, 1846, he makes the yield per acre, for 1845, about 50 bushels, and the vineyards suffered much from frost and the rot that year.

The grapes will sell readily in market at from three to four dollars a bushel.

Gas Tar in Horticulture.

A discovery which is likely to be of great advantage to agriculture, has just been reported to the Agricultural Society at Clermont (Oise.) A gardener whose frames and hot-houses required painting, decided on making them black, as likely to attract the heat better, and from principal of economy he made use of gas tar instead of black paint. The work was performed during the winter,

and on the approach of spring the gardener was surprised to find that all the spiders and insects which usually infested his hot-house had disappeared, and also that a vine which for the last two years had so fallen off that he had intended to replace it by another, had acquired fresh force and vigor and gave every sign of producing a large crop of grapes. He afterwards used the same substance to the posts and trellis-works which supported the trees in the open air, and met with the same result, all the caterpillars and other insect completely disappearing. It is said that similar experiments have been made in some of the vineyards of the Gironde with similar results.—*Galignani's Messenger.*

To Make Hens Lay Perpetually.

Keep no roosters; give the hens fresh meat chopped up like sausage meat, once a day—a very small portion, say half an ounce a day to each hen in winter, or from the time insects disappear in the fall till they appear again in the spring. Never allow any eggs to remain in the nest for what are called nest eggs. When the roosters do not run with the hens, and no nest eggs are left in the nest, the hens will not cease laying after the production of twelve or fifteen eggs, as they always do when roosters are allowed, but continue laying perpetually. If the above plan were generally adopted, eggs would be as plentiful in winter as in summer. One reason why hens do not lay in winter as freely as in summer is the want of animal food which they get in summer in abundance in the form of insects. When the ground is covered with snow give them access to lime and pebbles, from which the egg shell is formed.

Solidified Milk.

The last number of the *American Medical Monthly* contains an account of a visit made by a committee of medical gentlemen, appointed by the New York Academy of Medicine, to the establishment of Mr. Blatchford, at Armenia, some thirty miles east of Poughkeepsie, where solidified milk is prepared. The editor describes the process of solidification as follows:—To 112 lbs. of milk, 28 lbs. of Stuart's white sugar were added, and a trivial proportion of bicarbonate of soda, a teaspoonful, merely enough to insure the neutralizing of any acidity, which in the summer season is exhibited even a few minutes after milking, although inappreciable to the organs of taste. The sweet milk was poured into evaporating pans of enamelled iron, imbedded in warm water heated by steam. A thermometer was immersed in each of these water baths, that, by frequent inspection, the temperature might not rise above the point which years of experience shown advisable.

To facilitate the evaporation, by means of blowers and other ingenious apparatus, a current of air is established between the covers of the pans, and the solidifying milk. Connected with the steam engine is an arrangement for stirrers, for agitating the milk slightly while evaporating and so gently as not to churn it. In about three hours the milk assumed a pasty consistency, and delighted the palates of all present. By constantly manipulating and warming, it was reduced to a rich creamy-looking powder; then exposed to the air to cool, weighed into parcels of a pound each, and by a press, with the force of a

ton or two, made to assume the compact form of a tablet, (the size of a small brick,) in which shape, covered with tin foil it is presented to the public.

Some of the solidified milk which had been grated and dissolved in water the evening previous, was found covered with a rich cream. This skimmed off was soon converted into butter. Another solution was speedily converted into wine whey, by a treatment precisely similar to that employed in using ordinary milk. It fully equaled the expectations of all, so that solidified milk will hereafter rank among the necessary appendages of a sick room. In fine this article makes paps, custards, puddings and cakes, equal to the best milk; and obtained from well pastured cattle, and not the produce of distillery slops; neither can it be watered.

For our steamships, our packets, for those travelling by land or by sea, for hotel purposes, or use in private families, for young or old, we recommend it cordially as a substitute for fresh milk.

We look with interest for the scientific report of the committee of the Academy of Medicine, in which we hope for an exposition of the domestic culinary, and hygienic properties of solidified milk.

Colic.

The following remarks on colic are from Dr. Dadd's "Modern Horse Doctor." They embody some new ideas of this disease, which it may be well to consider:

In nine cases out of ten, colic is the result of impaired digestive organs; the food runs into fermentation, and evolves carbonic acid gas. In view of prevention, then, it becomes a matter of importance to know what are the causes of indigestion; and the most frequent may be said to be immoderate feeding—eating or drinking whatever disagrees with the stomach, in regard to quantity or quality. Every tyro in medicine knows that a drink of hard water will often produce colic, both in man and beast, provided the digestive functions shall be impaired. Mr. White says, "When the Royal Dragoons were quartered at Croydon, scarcely a day passed without one or more horses being attacked with flatulent colic, and on examining the water made use of in the barracks, it was found remarkably hard." Our own experience confirms this fact, for before the introduction of Cochituate water into Boston, very many of our employer's horses were frequently attacked with both flatulent and spasmodic colic, which are now entirely free from it, since they use pure soft water.

The treatment should consist, first, in the use of diffusible stimulants, (not alcoholic,) of a carminative nature, such, for example, as grains of paradise, caraway seed, ginger, &c.; and these should be given in a liquid form. Stimulants of a *sanative* nature are always indicated in the treatment of colic; for if the stomach be distended with a load of semi-putrid food, how can we get rid of it except by the ordinary way, when the parts are in a healthy state? Men have strangely erred in recommending *medicine*—castor oil, salts, aloes, opium, turpentine &c.—for the colic, and, perhaps, we ourselves are not free from blame in this matter. Experience, and nothing else, has changed our views, and we give them for the benefit of man and horse. "*Experience is the only true guide.*"

We select the following case as an example of treatment. The subject was a grey mare, seven years old, remarkable for her capacious belly. The attack was ushered in with the usual appearance of uneasiness. We found her lying down, her legs gathered up, groaning, and looking anxiously round at the flanks. She would occasionally roll on her back, but the abdomen was so enormously distended with flatus, that it is with much difficulty she could get on her side again. We commenced the treatment with the following:—

Powdered grains of paradise,..... 1 tea-spoonful.
 " caraway, $\frac{1}{2}$ tea-spoonful.
 Oil of peppermint,..... 20 drops.
 Powdered slippery elm,..... 1 table-spoonful.
 Hot water,..... 1 pint.

These were mixed together and given from a bottle. An injection of common soap suds was then thrown into the rectum. In a few minutes the mare voided a mass of excrement, accompanied with slime and wind. She now appeared to grow easier, and in a few minutes was free from pain. Very simple treatment, the reader may observe, yet we will venture to say very efficient. We have frequently cured *alarming* cases with a little peppermint tea alone; whereas, had the subject been treated after the fashion of some, the malady might, as it often does, have run on to a fatal issue. Those who prefer to use powerful remedies, as they are called, may ask, what good can peppermint tea accomplish? We answer, nature delights in simples; the mother finds it good for infants, and men almost invariably take peppermint, in some form, for the relief of colic; and we have tried it, and found it good for horses.

Inflammation of the bowels is very apt to set in during an attack of colic from the use of spirits of turpentine, and other popular nostrums; and it is much to be deplored that so noble an animal as the horse should be made to undergo such torture as he is known to do from the administration of turpentine. If any of our readers wish to satisfy themselves of the irritating properties of turpentine, let them apply a small quantity to the skin of a horse, and they will perceive that it is an irritant of no ordinary character; the restlessness of the animal, his efforts to "get at the part," and the tumefaction that follows, all denote the pain he suffers.

The Concord Grape.

The merits of this grape have been discussed very generally, but we have seen nothing which we like better than the following article from the *Horticulturist*. We may add that the *Horticulturist* is "authority" of the best character:

"It is a large, handsome grape, both bunch and berry resembling the *Isabella* in appearance, save that the bunch is more compact and the berry rounder and has a thicker coat of bloom. It has the same foxy perfume and flavor of the *Isabella*, but stronger; when a few berries are eaten, a prickling sensation is produced on the tongue. This has been remarked by all who have tested it, as far as we know. It is very juicy, and we think will prove to be an excellent wine grape. For the table, however, we do not consider it equal in quality to the *Isabella*; and in this opinion nearly all disinterested parties, whom we have conversed with, agree.

It was tested and compared with the *Isabella*, at Boston, grown at Weston, not far from Concord; and not one on the Committee considered it as good. We have again compared it with *Isabella* grown here, and the latter has been unanimously pronounced superior.

"Yet we regard the grape as an important acquisition, as ripening earlier than either the *Catawba* or *Isabella*, and therefore likely to furnish northern sections with a grape, where heretofore no good grapes have ripened. It may be two weeks earlier than the *Isabella*, but not more, we think; for ripe *Isabellas*, fully ripe and excellent, grown within ten miles or less of Concord, were shown beside it at Boston. The location, however, must have been a very favorable one; for most people seemed surprised to see it ripe so early, and some, Mr. Hovey included, asserted very positively that they were not *Isabellas* but veritable *Concords*. Mr. Hovey adhered to this opinion, we believe, until he went to Weston and examined the vine from which the *Isabellas* were gathered. From this one would suppose that there is a great similarity between the two grapes; and so there is; but the form and flavor are both different, as we have already said, and the canes of the *Concord* are much more slender than those of the *Isabella*.

"We believe the merits of this grape have been exaggerated. It has been described as being "*free from all pulp*," and of a *very rich and luscious flavor*. Mr. Bull himself, however, described it as having "*very little pulp*," which is nearer the truth. We think it will, with the same treatment, be about the size of the *Isabella*. It appears to have a vigorous constitution, likely to escape mildew and other diseases to a great extent; and this is a very important quality. On the whole, we congratulate Mr. Bull on his successful attempt at raising seedling grapes; it affords him ample encouragement to continue his labors in this direction."

For the Farm Journal.

Barn Building.

In Pennsylvania there is no complete farm without a barn, and the plan of construction is almost uniform. A bank-barn is deemed an indispensable necessity. The immense amount of money thus invested, and the proportion which it bears to the value of the land itself, is very satisfactory evidence of its practical value. Notwithstanding the impression that exists in other States on this subject, in my judgment, there can be no good and profitable farming without it. The subject has, therefore, sufficient importance to warrant the consideration, whether this plan, so uniform, has not been improved upon.

There can be no doubt of the great superiority of the two storied bank-barn. That plan of structure which will most conveniently economise time and labor will best promote the farmer's interests. Having one of each kind, experience has shown me the great superiority of that which I recommend. The difference between them cannot be better expressed than by saying that the improved barn has two sets of floors, one above the other; and as you drive into the upper one, it, of course, requires a corresponding height of natural bank—not so high, however, as may not be had on most farms of rolling land. The upper floors have an elevation of seven feet

above the lower. The advantage of such a barn is, first, its great capacity. It has a height and depth of twenty-six feet, without any high pitching; for your load is about the middle of it, and you pitch both down and up—down to the bottom of the mow, which is on a level with the lower floor, and up to the height of an ordinary barn. But the particular value of this is, the immense compression which results from a high and deep mow—the grain or hay is pressed into a space which is almost incredible to any one who has not experienced it. After filling the mow nearly full, you are led to wonder at its capacity to receive more. I need only add, that all other parts of the barn are improved in their convenience and space by this simple alteration in principle;—that the size of your barn is made to consist in its height instead of its length and breadth, whereby you save, in point of expense, the extensive roofing, and add nothing to your height of wall, which you do not take from its length and breadth; and what you gain is, the value of pressure in packing away, and the saving of labor, in requiring but one or two hands to put your grain in a small mow, when two or three, or perhaps four, would be required in one of greater space.

But this is but one point of convenience and economy. To thresh grain with a machine requires four, five or six hands—the number depending upon the convenience of putting away the straw. It is easy to perceive the difference in putting away straw in mows and overshots seven feet below the threshing floor, and in those on a level with it. And soon after you begin to get out your grain this state of the case arises, and it will be found that one or two hands less are required.

The capacity of the common bank-barn will allow you to thresh from one hundred to one hundred and fifty bushels at a time, and then you must stop, discharge your hands, and occupy the next day or two in cleaning up and getting your grain out of the way, whereas in the improved barn the threshed grain passes to the lower floor, is not in your way, and you thresh on until you are done. And in a barn thus constructed more than double the quantity can be threshed in a day. In the common barn; with the machine I use, it requires about twenty-two minutes to run through ten dozen, and twenty-seven minutes to cave it up; in the improved one all the time of caving up, being more than one-half, is saved. The same machine, which will thresh one hundred bushels a day in the former, with one hand less will thresh two hundred bushels in the latter. One of the lower floors is used for cleaning your grain, and the other for garners; and both constantly useful for many other purposes.

I commend to farmers the examination of this improvement before they build a barn.

Carlisle, Nov. 13, 1854. FREDERICK WATTS.

Meeting of the National Pomological Society

Not being able to procure an official copy of the proceedings of the recent meeting of the society, we take the following report from the Horticulturist as the part we have seen:

Pursuant to notice, the session opened on the 13th inst., at half past 10 o'clock. President WILDER in the Chair. The attendance was fair, but less numerous than we expected. The dry season had some effect in keeping people away, as a large and general display of fruits was not ex-

pected. There were respectable delegations from New York, New Jersey, Pennsylvania, Maine, New Hampshire, and Vermont; one from Ohio, one from Illinois, one from Iowa, and one from Georgia.

The President's address was the first business in order, and an excellent, practical address it was. The principal topics discussed in it were—1st. Raising Fruits from Seed; 2nd. The Arts of cultivation; 3rd. The preservation and ripening of Fruits.

The next business in order was the selection of officers for the ensuing year. A committee of one from some five or seven States was appointed, and the officers of last year were re-nominated and elected unanimously:

MARSHALL P. WILDER, *President*. One *Vice President* from each State. H. W. S. CLEVELAND, *Secretary*. THOS. P. JAMES, *Treasurer*.

A committee was appointed to prepare an order of business, and reported the following:—First, discussion of the Pear, in the following order:—1. Rejection of worthless sorts. 2. Adoption of sorts for general culture. 3. Adoption of sorts that promise well. 4. Sorts for culture on Quince stock. When these subjects are closed, the Apple, Plum, Cherry, and other fruits to be taken up.

DISCUSSION ON FRUITS:—On the list of Pears proposed for rejection were the following sorts, which were retained at the suggestion of Mr. HOVEY:

Beurre Adam, Dumortier of Manning, Duchesse Dumas, Figue de Naples, Flemish Bonchretien, Haeon's Incomparable, March Bergamot, Knight's Monarch, and Styrian.

The list previously recommended for trial as "promising well" was then taken up, and the only variety on it deemed worthy of promotion to the list "for general cultivation" was the Manning's Elizabeth—very highly commended by nearly all who have tested it. Brande's St. Germain and Diller were stricken off the list as unworthy, and the others, after discussion were allowed to remain. The names of Van Assene and Duchesse d' Orleans were changed to Van Assche and Beurre St. Nicholas, being the original names.

The following varieties were discussed and admitted to the trial as "promising well":—Beurre Clairgeau, Sheldon, Collins, Adams, Howell, Beurre Superfin, Lawrence, Belle Epine Dumas, and Walker.

The President was requested to name a few of the more promising new varieties, and gave the following:

Pius IX. Rousselot d' Esperin, Beurre Sterckman, Chas. Van Hoogten, Conte de Flanders, and Theodore Van Mons. Mr. MANNING added Fondante de Maline.

The Easter Beurre was introduced and discussed at considerable length. Many had succeeded well with it, and others could not ripen it. It sells in the Boston market at \$3 to \$6 per dozen.

The Fondante de Noel, known as "Belle Apres Noel," was well spoken of. Fondante de Noel was suggested by Mr. BERCKMAN, as the original and correct name, and was so agreed to.

Apples.—We were absent during a considerable part of the discussion on Apples. The Melon and Hawley were, we believe, recommended for general cultivation, the Benoni for trial, and the Ladies' Sweet was passed as one of the best winter sweet varieties. Several others were discussed and passed by as not being sufficiently known.

Cherries.—The following varieties were adopted as promising well:—Belle d' Orleans, Gov. Wood, Black Hawk, Great Bigarrean, Coc's Transparent, Kirtland's Mary, Hovey, Walsh's seedling, known and disseminated by HOVEY as the New Black Bigarrean.

Strauberies.—The discussion was very unsatisfactory. There seemed to be an astonishing difference of opinion in

regard to the merits of sorts. Burr's New Pine and Jenny's Seedling were recommended for "certain localities."

Plums.—The following were recommended for general cultivation:—McLaughlin, Smith's Orleans, and Reine Claude de Bavay; and as promising well, Washington Seedling and Monroe.

Raspberries.—Knevet's Giant was adopted for general cultivation, and the Orange and the French as promising well.

Blackberries.—The New Rochelle was highly spoken of by those who knew it. The Needham White variety generally regarded as worthless.

No action taken upon Apricots or Nectarines we believe.

Grapes.—The Diana was recommended for general cultivation. The Concord was discussed, but nothing more done in relation to it than to adopt the report of the committee on seedling fruits.

We found it impossible, in consequence of frequent interruptions, to carry out our intention of making a full report of the decision on fruits, but as soon as the official report appears we shall correct all errors and make up all deficiencies. We know that many will be desirous of learning as soon as possible what the decisions of the society were on certain varieties, and we therefore give an imperfect sketch without delay.

Pears on Quince Stock.—This part of the business was up towards the close and the following twenty-two varieties were unanimously agreed too, as worthy of being recommended for general cultivation on that stock:—Duchesse d' Angouleme, Rostiezer, Beurre d' Anjou, Beurre Diel, White Doyenne, Louise Bonne de Jersey, Vicar of Winkfield, Glout Morceau, Fig Beurre Langlier, Easter Beurre, Pound or Uvedale's St. Germain, Catillac, Beurre d' Amais, Long Green, Nouveau Poiteau, Soldat Laborer, Urbaniste, Napoleon, Buffam, St. Michael Archangel, Triumph de Jo-doigne.

The proceedings throughout were characterized by the utmost caution, carried even to the extreme, as we think, in many cases, in regard to recommending fruits. This will be readily seen from the small number agreed to for general culture, and also from some varieties previously recommended having been stricken entirely off the lists. This will doubtless commend such decisions as have been made to the public. The delegates from abroad go home well pleased—delighted with the hospitality and kindness of the Boston horticulturists, and greatly instructed and encouraged by their skill, enterprise and enthusiasm.

The exhibition of the Society was grand. A great oval tent on the common, 200 feet long and 100 feet wide, filled with the finest fruits and flowers. A table through the center was occupied with flowers and plants. On either side of this were two tables laden with fruits, and around the side a table for cut flowers, vegetables, &c. In the evening it was brilliantly lighted with gas, and a band of music played at intervals and gave the scene additional zest. The competition for the premium for the best thirty varieties of Pears, twelve specimens of each, brought out a fine display. On each of the four tables there was a collection of thirty varieties from Messrs. WILDER, WALKER, CABOT and HOVEY.

The President of the Society, as well as the Committees and members, were unceasing in their attentions to the delegates from abroad, and when we say we never spent three more agreeable days than we did among the Boston gentlemen, we only repeat the unanimous expression of all those from this and other states.

In two years from this time the society is to meet at Rochester, and the North-West Pomological Society is invited to meet it there. We hope and believe that this general

assemblage from the east and west will be no less pleasant or profitable than any we have yet seen. The time is distant and great changes may take place ere then, but we shall look forward to it with pleasure nevertheless.

"National" Cattle Show.

We are indebted to the Ohio Cultivator for the following report of the National Cattle Exhibition, recently held at Springfield, in that State. We regret our inability to add the speeches made at the banquet. We will publish them in our next:

The crowd was not so large as to be unwieldy, or very much in each other's way, while it was large enough to inspire the feeling of social contact. The great feature of the show, of course, was short-horns, though there were several exhibitors—we can hardly say competitors—in the other departments. Though the show of cattle was by no means so large as that at Newark, the week before, yet it is the general opinion that this, in quality, has not been exceeded by any show yet held in the United States. We have no room for detail, indeed comment is unnecessary. Every thing passed off pleasantly, especially the grand banquet on Thursday, for which the local committee deserve unbounded praise, as they have the thanks of many hundreds who were thus enabled to enjoy a double feast of chickens and speeches. Hon. M. P. Wilder, of Boston, presided at the festival, in which many distinguished guests, besides agriculturists, did themselves the honor to participate. But we cannot speak of individuals, noble fellows as they are. The following list of awards will indicate the successful competitors. A sweepstakes premium of \$500 was competed for, with one bull and five cows each, by Brutus J. Clay, of Kentucky, S. Meredith, of Indiana, A. Watts, Jacob Pierce and W. D. Pierce, of Ohio—but the committee did not decide between the competitors, and no award was made.

DURHAM BULLS.

E. G. Bedford, Paris, Ky., best over 3 years old, Perfection,	\$300
J. W. Robinson, Madison co., O., 2d best, Sheffielder,	200
Caldwell & Co., Fayette co., Ia., 3d best, Belmont,	100
Brutus J. Clay, Bourbon co., Ky., best 2 year old, Locomotive,	200
J. G., W. A. & R. G. Dunn, Madison co., O., 2d best, Colonel,	150
J. M. Sherwood, Auburn, N. Y., 3d best, Lafayette,	75
Clarke & Co., Springfield, O., best 1 year, New Year's Day,	150
G. M. Bedford, Paris, Ky., 2d best, King Cyrus,	100

DURHAM COWS.

B. J. Clay, Ky., best over 3 years old, Lady Stanhope,	200
Wm. Palmer, Fayette co., O., 2d best, Dutchess,	150
S. Meredith, Wayne co., Ia., 3d best, Clara Fisher,	100
J. Stedden, Warren co., O., best 3 year old, Fashion,	150
B. J. Clay, Ky., 2d best, Laura,	100
S. Meredith, Ia., 3d best, Mary Clay,	50
J. Duncan, Paris, Ky., best 1 year old, Louan 2d,	100
Clarke & Co., Springfield, O., 2d best, Easter Day,	75

DEVON BULLS.

M. W. Smith, Lebanon, O., best over 3 years, Know Nothing,	100
L. G. Collins, Montgomery co., Ind., 2d best, Herod,	75
L. F. Allen, Buffalo, N. Y., best 2 year old, Moulton,	80
E. Merritt, Clarke co., O., 2d best Jake,	60
L. G. Collins, Ia., best 1 year old, Priam,	55
COWS.	
L. F. Allen, Buffalo, N. Y., best over 3 years old, Sapho,	100
L. G. Collins, Ia., 2d best, Francis,	75

C. M. Merriwether, Todd co., Ky., best 2 year old, Dolly,	75
M. W. Smith, Lebanon, O., 2d best, ———,	50
1 year old, only one entry, com,	60

HEREFORD BULLS.

Thomas Aston, Elyria, O., 3 year old, Curly,	100
W. H. Sotham, Owego, N. Y., 2 year old, Mystery,	80
Thomas Aston, Elyria, O., 1 year old, Defiance,	75

COWS.

W. H. Sotham, Owego, N. Y., 3 year old, Bombazine,	100
Thomas Aston, Elyria, O., 2d best, Duchess,	75
W. H. Sotham, Owego, N. Y., 2 year old, Bright Eyes,	75

AYRSHIRE BULLS.

P. Melendy, Hamilton co., O., best 3 year old Danby,	100
T. W. Barber, New Paris, O., 2d best, Wallace,	80
P. Melendy, Hamilton co., O., best 1 year old, Ducas,	75

COWS.

P. Melendy, best 3 year old, Lassie,	100
do 2d best, Belle,	75
do 3d best 2 year old,	75

JERSEY BULLS.

R. S. Colt, Paterson, N. J., best 3 year old, Pat 4th,	100
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COWS.

R. S. Colt, Patterson, N. J., best 3 year old, Dun,	100
do do do do 1 year old, Patty,	60

MISCELLANEOUS.

C. Fullington, Union co., O., best yoke of work oxen,	50
B. Stedman, Cleveland, O., best fat bullock,	50
J. W. Ware, Fayette co., Ky., best fat cow,	50
J. W. Brock, New Petersburg, O., best milch cow,	50
J. W. Ware, best 4 year old steer,	50
W. D. Pierce, Clark co., O., best bull calf of any breed,	50
W. W. Thrasher, Fayette co., Ia., best heifer calf of any breed,	50

Massachusetts Horticultural Society.

Some months back the Massachusetts Horticultural Society passed a series of resolutions censuring Mr. C. M. Hovey for having used improper means to obtain the premiums for the Boston Pear and Hovey Cherry. This led to an angry discussion in some of our eastern contemporaries, and caused considerable excitement both in and out of the society. As we published the action of the society in this case at the time, it is proper that we should now state, that at a recent meeting of the society the article of censure was rescinded.

A Montgomery County Cabbage.

Our attention was lately arrested in passing by the agricultural warehouse of Paschall Morris & Co., Philadelphia, by an enormous cabbage displayed on their counter. It was of the late Drumhead variety, and weighed 21½ pounds. It was raised by Mr. Levi Morris on the Codorus farm, not very far from the Delaware county line, along with several others not much behind it in size and weight. Can Chester or any other county beat this cabbage?

Information Wanted.

The undersigned has a valuable young mare, which makes a good appearance in harness, excepting an unfortunate habit she has of thrusting her tongue out of her mouth sideways, as she travels. This habit injures her appearance, and it is very desirable to get rid of it. If any of the readers of the Farm Journal can furnish any information that will be of service in remedying the evil, they will confer a favor by forwarding it for insertion.

W. T.

LIST OF PREMIUMS

FOR THE

FOURTH ANNUAL EXHIBITION

OF THE

PENNSYLVANIA STATE AGRICULTURAL SOCIETY,

To be held on the 26th, 27th, 28th and 29th of September next.

[By the kindness of the Secretary of the Pennsylvania State Agricultural Society, we are enabled to lay before our readers this month the following Schedule of Premiums for the next Annual Exhibition. The place for holding the next exhibition has not yet been determined, but it will be fixed upon shortly. Owing to the copy for the schedule not coming to hand until a late period in the month, we were compelled to delay our issue a few days.]

The Society will take great care in the selection of their Judges, and they confidently hope that all who shall be named will attend. The names of the Judges will be announced and published, at least one month before the Exhibition.

CLASS NO. I.

CATTLE.

No 1.—SHORT HORNS.

Bulls.

For best Bull, 3 years old and upwards,	-	\$20
Second best do do - - -	15	
Third best do do - - -	8	
Best Bull between 2 and 3 years,	-	15
Second best do do - - -	8	
Third best, do do - - -	4	
Best Bull between 1 and 2 years,	-	10
Second best do do - - -	5	
Third best, do do - - -	3	
Best Bull Calf under 10 months,	-	5
Second best do do - - -	3	
Third best do do - - -	2	

Cows.

Best cow 3 years old and upwards,	-	\$20
Second best do do - - -	10	
Third best do do - - -	6	
Best heifer between 2 and 3 years old,	-	15
Second best do do - - -	10	
Third best do do - - -	5	
Best heifer between 1 and 2 years,	-	10
Second best do do - - -	5	
Third best do do - - -	2	
Best heifer calf under 10 months,	-	5
Second best do do - - -	3	
Third best do do - - -	1	

No. 2.—DEVONS.

Bulls.

For best bull 3 years and upwards,	-	\$20
Second best do do - - -	15	
Third best do do - - -	8	
Best bull between 2 and 3 years,	-	15
Second best do do - - -	8	
Third best do do - - -	4	
Best bull between 1 and 2 years,	-	10
Second best do do - - -	5	
Third best do do - - -	3	
Best bull calf under 10 months,	-	5
Second best do do - - -	3	
Third best do do - - -	2	

Cows.

Best cow 3 years and upwards,	-	\$20
Second best do do - - -	10	
Third best do do - - -	6	
Best heifer between 2 and 3 years,	-	15
Second best do do - - -	10	
Third best do do - - -	5	
Best heifer between 1 and 2 years,	-	10
Second best do do - - -	5	
Third best do do - - -	2	
Best heifer calf under 10 months,	-	5
Second best do do - - -	3	
Third best do do - - -	1	

No. 3.—HEREFORDS.

Bulls.

For best bull 3 years old and upwards,	-	\$20
Second best do do - - -	15	
Third best do do - - -	8	
Best bull between 2 and 3 years	-	15
Second best do do - - -	8	
Third best do do - - -	4	
Best bull between 2 and 3 years,	-	10
Second best do do - - -	5	
Third best do do - - -	3	
Best bull calf under 10 months.	-	5
Second best do do - - -	3	
Third best do do - - -	2	

Cows.

Best cow 3 years old and upwards,	-	\$20
Second best do do - - -	15	
Third best do do - - -	6	
Best heifer between 2 and 3 years,	-	15
Second best do do - - -	8	
Third best do do - - -	5	
Best heifer between 1 and 2 years,	-	10
Second best do do - - -	5	
Third best do do - - -	2	
Best heifer calf under 10 months,	-	5
Second best do do - - -	3	
Third best do do - - -	1	

No. 4.—AYRSHIRE.

Bulls.

For best bull 3 years old and upwards,	-	\$20
Second best do do	- - -	15
Third best do do	- - -	8
Best Bull between 2 and 3 years,	- - -	15
Second best do do	- - -	8
Third best do do	- - -	4
Best bull between 1 and 2 years,	- - -	10
Second best do do	- - -	5
Third best do do	- - -	3
Best bull calf under 10 months,	- - -	5
Second best do do	- - -	3
Third best do do	- - -	2

Cows.

For best cow 3 years old and upwards,	-	\$20
Second best do do	- - -	15
Third best do do	- - -	6
Best heifer between 2 and 3 years,	- - -	15
Second best do do	- - -	8
Third best do do	- - -	5
Best heifer between 1 and 2 years,	- - -	10
Second best do do	- - -	5
Third best do do	- - -	2
Best heifer calf under 10 months,	- - -	5
Second best do do	- - -	3
Third best do do	- - -	1

No. 5.—HOLSTEIN.

Bulls.

For best bull 3 years old and upwards,	-	\$20
Second best do do	- - -	15
Third best do do	- - -	8
Best bull between 2 and 3 years,	- - -	10
Second best do do	- - -	8
Third best do do	- - -	4
Best bull between 1 and 2 years,	- - -	10
Second best do do	- - -	5
Third best do do	- - -	3
Best bull calf under 10 months,	- - -	5
Second best do do	- - -	3
Third best do do	- - -	2

Cows.

For best cow 3 years old and upwards,	-	\$20
Second best do do	- - -	15
Third best do do	- - -	6
Best heifer between 2 and 3 years,	- - -	15
Second best do do	- - -	8
Third best do do	- - -	5
Best heifer between 1 and 2 years,	- - -	10
Second best do do	- - -	5
Third best do do	- - -	2
Best heifer calf under 10 months,	- - -	5
Second best do do	- - -	3
Third best do do	- - -	1

No. 6.—ALDERNEY.

Bulls.

For best bull 3 years old and upwards,	-	\$20
Second best do do	- - -	15
Third best do do	- - -	8
Best bull between 2 and 3 years,	- - -	15
Second best do do	- - -	8
Third best do do	- - -	4
Best bull between 1 and 2 years,	- - -	10
Second best do do	- - -	5
Third best do do	- - -	3
Best bull calf under 10 months,	- - -	5
Second best do do	- - -	3
Third best do do	- - -	2

Cows.

For best cow 3 years old and upwards,	-	\$20
Second best do do	- - -	15
Third best do do	- - -	6
Best heifer between 2 and 3 years,	- - -	15
Second best do do	- - -	8
Third best do do	- - -	5
Best heifer between 1 and 2 years,	- - -	10
Second best do do	- - -	5
Third best do do	- - -	2
Best heifer calf under 10 months,	- - -	5
Second best do do	- - -	3
Third best do do	- - -	1

No. 7.—NATIVES OR GRADES.

Bulls.

For best bull 3 years and upwards,	-	\$12
Second best do do	- - -	10
Third best do do	- - -	8
Best bull between 2 and 3 years,	- - -	10
Second best do do	- - -	8
Third best do do	- - -	4
Best bull between 1 and 2 years,	- - -	6
Second best do do	- - -	4
Third best do do	- - -	2
Best bull calf under 10 months,	- - -	3
Second best do do	- - -	1

Cows.

For best cow 3 years and upwards,	-	\$12
Second best do do	- - -	10
Third best do do	- - -	8
Best heifer between 2 and 3 years,	- - -	10
Second best do do	- - -	8
Third best do do	- - -	4
Best heifer between 1 and 2 years,	- - -	6
Second best do do	- - -	4
Third best do do	- - -	—
Best heifer calf under 10 months,	- - -	3
Second best do do	- - -	1

No. 8.—WORKING OXEN.

For best team of 20 yoke from any county, (Premium to be paid to the County Agricultural Society, in said county,)	\$50
Second best team of 20 yoke from any county, (Premium to be paid to the County Agricultural Society, in said county,)	30
Best team of oxen, not less than 3 yoke,	20
Second best do do	15
Best yoke of oxen,	12
Second best do	10
Third best do	8

A cart will be provided to test the working qualities of the oxen.

No. 9.—FAT CATTLE.

For best pair fat steers or oxen,	\$15
Second best do do	10
Third best do do	5
Best fat cow,	10
Second best,	5
Third best,	3
Best fat heifer,	10
Second best do	5
Third best do	3
Best fat steer,	15
Second best,	10
Third best,	5

Applicants for premiums for fat cattle, must furnish statements of the manner of feeding.

Judges on Fat Cattle, will give particular attention to the animals submitted to them for examination. It is believed that all other things being equal, those are the best cattle that have the greatest weight in the smallest superficies. The Cattle to be judged as *Fat Cattle*, will all be weighed, and the Judges will take measures to get the superficies of each.

No. 10.—MILCH COWS.

For best Milch Cow,	\$20
Second best do	15
Third best do	10

The Cows to be kept on grass only during the trial, and for ten days previous to each period of trial. The time of trial from 10th to 20th of June, and from 10th to 20th of August, 1854.

STATEMENT TO BE FURNISHED CONTAINING

First. The age and breed of Cow, and time of calving.

Second. The quantity of milk, in weight, and also of butter made from such cow, during each period of ten days.

Third. A statement to be made to the Judges, of the facts, verified by the affidavit of competitor and one other person conversant therewith.

No. 11.—FOREIGN IMPORTED CATTLE.*

Best Short Horn Buli 2 years old and upwards, diploma and	\$25
Best Heifer or Cow 2 years and upwards, diploma and	20
Best Devon Bull 2 years and upwards, diploma and	20
Best Heifer or Cow 2 years and upwards, diploma and	20
Best Hereford Bull 2 years and upwards, diploma and	20
Best Heifer or Cow 2 years and upwards, diploma and	20
Best Ayrshire Bull 2 years and upwards, diploma and	20
Best Heifer or Cow 2 years and upward, diploma and	20

*The importation, to entitle it to compete, must have been made within twelve months.

CLASS NO. II.

HORSES AND MULES.

No. 12.—STALLIONS AND MARES FOR ALL WORK.

Best Stallion 4 years and upwards,	\$30
Second best do do	15
Third best do do	5
Best Brood Mare, (with foal at her foot,) 4 years and upwards,	30
Second best do do do	15
Third best do do do	5
Heavy Draught.	
Best Stallion 4 years and upwards,	\$30
Second best do do	15
Third best do do	5
Best Brood Mare, [with foal at her foot,] 4 years and upwards,	30
Second best do do do	15
Third best do do do	5

Quick Draught.

Best Stallion 4 years and upwards,	\$30
Second best do do	15
Third best do do	5
Best Mare, do do	30
Second best do do	15
Third best do do	5

Draught.

Best Stallion 4 years and upwards,	\$30
Second best do do	15
Third best do do	5
Best Mare, do do	30
Second best do do	15
Third best do do	5

Three Years Old.			
Best Stallion 3 years and under 4,			\$30
Second best	do	do	15
Third best	do	do	5
Best Mare,	do	do	30
Second best	do	do	15
Third best	do	do	5

Two Years Old.			
Best Stallion 2 years and under 3,			\$30
Second best	do	do	15
Third best	do	do	5
Best Mare,	do	do	30
Second best	do	do	15
Third best	do	do	5

One Year Old Colts.			
Best Stallion 1 year old,			\$15
Second best	do		10
Third best	do		5
Best mare,	do		15
Second best	do		10
Third best	do		5

Matched Horses for Carriages.			
Best pair of Matched Horses,			\$30
Second best	do		15
Third best	do		5
Best pair of matched Mares,			20
Second best	do		10
Third best	do		5

For Draught or Farm.			
Best pair of Matched Horses,			\$30
Second best	do		15
Third best	do		5
Best pair of Matched Mares,			15
Second best	do		10
Third best	do		5

Geldings and Single Mares.			
Best Gelding for saddle,			\$10
Second best	do		7
Third best	do		5
Best Gelding for harness,			10
Second best	do		7
Third best	do		5

Single Mares.			
Best Mare for saddle,			\$10
Second best	do		7
Third best	do		5
Best Mare for harness,			10
Second best	do		7
Third best	do		5

Jacks and Mules.			
Best Jack,			\$20
Second best			10
Best Jennet,			20
Second best			10
Best pair of Mules,			20
Second best	do		10

Third best	do		10
Best Team of Mules not less than 4,			25
Second best	do	do	15

No. 13.—FOREIGN IMPORTED HORSES, <i>Having been imported within one year.</i>			
Best Blood Stallion 4 years and upwards, diploma and			\$20
Best Brood mare 4 years and upwards, diploma and			20
Best Stallion of all work 4 years and upwards, diploma and			20
Best Brood Mare 4 years and upwards, diploma and			20
Best Draught Stallion 4 years and upwards, diploma and			20
Best Brood Mare 4 years and upwards, diploma and			20

Thorough Bred.			
Best Stallion 4 years and upwards,			\$30
Second best,	do		20
Third best,	do		10
Best Brood Mare [with foal at her foot,]			30
Second best,	do		20
Third best,	do		10

In order to compete in this class of *Thorough Breeds*, Pedigrees must be produced, showing the purity of blood of all animals exhibited in this class. The pedigree must be complete on the part of both dam and sire.

CLASS NO. III.

SHEEP, SWINE AND POULTRY.

No. 14.—SHEEP AND WOOL.

Long Woolled.			
Best Buck,			\$10
Second best,	do		6
Best pen of Ewes, not less than 3			10
Second best,	do		6
Best pen of lambs, not less than 4			10
Second best,	do		6

Middle woolled.			
Best Buck,			\$10
Second best,	do		6
Best pen of Ewes, not less than 3,			10
Second best,	do		6
Best pen of Lambs, not less than 4			10
Second best,	do		6

Merinoes.			
Best Buck,			\$10
Second best,	do		6
Best pen of Ewes not less than 3			10
Second best,	do		6
Best pen of Lambs not less than 4			10
Second best,	do		9

Saxons.		Second best, do - - - - -	3
Best Buck, - - - - -	\$10	No. 15.—SWINE.	
Second best, do - - - - -	6	Large Breed.	
Best pen of Ewes not less than 3 - - - - -	10	For best Boar over 2 years old, - - - - -	\$10
Second best, do - - - - -	6	Second best, do do - - - - -	5
Best pen of Lambs not less than 4 - - - - -	10	Best boar, 1 year old, - - - - -	10
Second best, do - - - - -	6	Second best, do - - - - -	5
Cross Bred Sheep.		Best Boar 6 months and under 1 year, - - - - -	10
Best Buck, - - - - -	\$10	Second best, do do do - - - - -	5
Second best, do - - - - -	6	Best Breeding Sow over two years, - - - - -	10
Best pen of Ewes not less than 3 - - - - -	10	Second best, do do - - - - -	5
Second best, do - - - - -	6	Best Breeding Sow 1 year, - - - - -	10
Best pen of Lambs, not less than 4 - - - - -	10	Second best, do - - - - -	5
Second best, do - - - - -	6	Best Sow, 6 months and under 1 year, - - - - -	10
FOREIGN IMPORTED SHEEP.		Second best do do do - - - - -	5
Long Woolled.		Best lot of pigs, (not less than 5) under 6 months, 10	
Best Buck, - - - - -	\$10	Second do do do do - - - - -	5
Second best, do - - - - -	8	Including Chester, Berkshire, Hampshire, Leicester and their grades.	
Best pen, 3 Ewes, - - - - -	10	Small Breed.	
Second best, do - - - - -	8	For best Boar over 2 years, - - - - -	\$10
Middle woolled.		Second best do - - - - -	5
Best Buck, - - - - -	\$10	Best Boar 1 year old, - - - - -	10
Second best, do - - - - -	8	Second do - - - - -	5
Best pen, 3 Ewes, - - - - -	10	Best Boar 6 months old and not 1 year, - - - - -	10
Second best, do - - - - -	8	Second best do - - - - -	5
Merinoes.		Best breeding Sow, 2 years, - - - - -	10
Best Buck, - - - - -	\$10	Second best do - - - - -	5
Second best, do - - - - -	8	Best breeding Sow 1 year and under 2, - - - - -	10
Best pen, 3 Ewes, - - - - -	10	Second best do - - - - -	5
Second best, do - - - - -	8	Best Sow 6 months and under 1 year, - - - - -	10
Saxons.		Second best do - - - - -	5
Best Buck, - - - - -	\$10	Best lot of Pigs not less than five and under six months, - - - - -	10
Second best, do - - - - -	8	Second best do - - - - -	5
Best pen, 3 Ewes, - - - - -	10	Including Neapolitan, Suffolk, improved China, Chinese, Mucha and their grades.	
Second best, do - - - - -	8	For best Fattened Hog, - - - - -	\$5
Fat Sheep.		Second best do - - - - -	3
Best Fat Sheep, under 2 years old, and upwards	\$6	No. 16.—POULTRY.	
Second best, do - - - - -	5	Best lot of Shanghai fowls not less than 3; 1 cock and 2 hens, - - - - -	\$3
Third best, do - - - - -	3	Second best do - - - - -	2
Best Fat Sheep under 2 years, - - - - -	6	Best lot of Dorking Fowls not less than 3—1 cock and 2 hens, - - - - -	3
Second best, do - - - - -	5	Second best do - - - - -	2
Third best do - - - - -	3	Best lot of Poland Fowls not less than 3—1 cock and 2 hens, - - - - -	3
Best 5 Fat Sheep, any age, - - - - -	10	Second best do - - - - -	2
Second best, do - - - - -	8	Best lot of black Spanish, not less than 3—1 cock and 2 hens, - - - - -	3
Wool.		Second best do - - - - -	2
Best 3 fleeces Saxony Wool, - - - - -	\$5	Best lot of Jersey Blues, not less than 3—1 cock and 2 hens, - - - - -	3
Second best, do - - - - -	3	Second best do - - - - -	2
Best 3 fleeces Merino Wool, - - - - -	5	Best lot of Buck's County Fowls, not less than	
Second do - - - - -	3		
Best 3 fleeces of Long Wool, - - - - -	5		
Second do - - - - -	3		
Best 3 fleeces Middle Wool, - - - - -	5		
Second do - - - - -	3		
Best 3 fleeces Lambs Wool, - - - - -	5		
Second best, do - - - - -	3		
Best Shepherd Dog, - - - - -	\$5		

3—1 cock and 2 hens, - - - -	
Second best do - - - -	
Best lot of Cochín China, Malav and Chittong	
Fowls, not less than 3—1 cock and 2 hens,	
Second best do - - - -	
Best lot of Bantams, not less than 3—1 cock	
and 2 hens, - - - -	
Second best do - - - -	
Best lot of Game Fowls, not less than 3—1 cock	
2 hens, - - - -	
Second best do - - - -	
Best lot of Native or Dung Hill Fowls not	
less than 5, - - - -	
Second best do - - - -	
Best lot of Poultry owned by exhibitor, -	
Largest collection of Fowls, - - - -	
Best lot of Capons, not less than 3, - -	
Second best do - - - -	
Best pair of Turkeys, - - - -	
“ “ Geese, - - - -	
“ “ Wild Geese, - - - -	
“ “ Muscovy ducks, - - - -	
“ “ Common Ducks, - - - -	
Best pair of Pea Fowls, - - - -	
Best Caponed Turkey, - - - -	
Best lot of Guinea Fowls, not less than five,	
Best exhibition of Pigeons, - - - -	
Second best do - - - -	
Best pair imported Fowls, - - - -	
Second best do - - - -	

CLASS NO. IV.

No. 17.—PLOWING MATCH.

The Plowing Match will take place on Friday morning, at 9 o'clock. Persons competing in the Plowing Match, will have their teams hitched and in readiness at the appointed hour.

First premium to be awarded for the best plow, \$10	
Second best plow, - - - -	8
Third best do - - - -	5
Fourth best do - - - -	5
Best single horse Plow, - - - -	10
Second best do - - - -	5
Best Subsoil do - - - -	5
Second best do - - - -	5
Best Corn Plow, - - - -	10
Second best do - - - -	3
Best Side-hill Plow, - - - -	10
Second best do - - - -	5
First Premium to be awarded to the best Plow-	
man, - - - -	15
Second best Plowman, - - - -	10
Third best do - - - -	8
Fourth best do - - - -	5
First Premium to be awarded to the best Plow-	
boy under 18 years, - - - -	10

3	Second best Plowboy under 18 years, - - -	8
2	Third best do do - - -	5
	Fourth best do do - - -	3
3	The name of Plowman must be given, as well	
2	as the kind of plow to be used, at the time of entry.	

CLASS NO. V.

No. 18.—FARM IMPLEMENTS No. 1.

3	Best Farm Wagon, - - - -	\$10
2	Second best do - - - -	5
	Best Hay rigging, - - - -	5
3	Second best do - - - -	3
2	Best Harrow, - - - -	3
10	Second best, - - - -	3
10	Best Corn Cultivator, diploma and - - -	5
5	Second best do do - - -	3
3	Best Grain Drill, diploma and - - -	15
3	Second best do do - - -	10
3	Third best do do - - -	5
3	Best Seed Planter, for horse or hand power, for	
3	hills or drills, diploma and - - -	10
3	Second best do - - -	5
5	Best Cultivator for general purposes, diploma and	10
5	Second best do do do - - -	5
3	Best Broad Cast Sower, diploma and - - -	10
5	Second best do - - -	5
3	Best Roller for general use, - - -	5
5	Second best do - - -	3
3	Best Clod Crusher and Roller combined, - - -	5
	Second best do do do do - - -	3
	Best Fanning mill—diploma and - - -	10
	Second best do do - - -	5
	Best Corn Stalk Cutter, - - -	5
	Second best do - - -	3
	Best Hay and Straw Cutter, diploma and - - -	5
	Second best do do - - -	3
	Best vegetable cutter, - - -	5
	Second best do - - -	3
	Best Corn and Cob Crusher, by horse power,	10
	Second best do do do do - - -	5
	Best Clover huller, - - -	10
	Second best do - - -	5
	Best Horse cart for farm, - - -	5
	Second best do - - -	3
	Best Ox Cart, - - -	5
	Second do - - -	3
	Best Horse Rake, - - -	5
	Second best do - - -	3
	Best Ox Yoke, - - -	5
	Second best do - - -	3
	Best Corn Sheller, horse power, - - -	10
	Second best do do - - -	5
	Best Corn Sheller, hand power, - - -	5
	Second best do do - - -	3
	Best Farm or Road Scraper, - - -	3
	Second best do do - - -	2

No. 19.—FARM IMPLEMENTS No. 2.			
For best Churn, - - - - -	\$3	2nd best do - - - - -	5
Second do - - - - -	2	Best separator, - - - - -	10
Best Cheese press, - - - - -	5	2nd best do - - - - -	5
Second do - - - - -	3	Best portable hay press, - - - - -	10
Best twelve Milk Pans, - - - - -	3	2nd best do - - - - -	5
Second best do - - - - -	2	Best churning machine, - - - - -	5
Best Milk strainer, - - - - -	2	Best dog power churning machine, - - - - -	5
Second best do - - - - -	1	Best washing machine, - - - - -	5
Best potato masher, - - - - -	3	Best pump for wells, - - - - -	10
Second best do - - - - -	2	2nd best do - - - - -	5
Best grain cradle, - - - - -	2	Best arrangement for raising water other than pump, - - - - -	10
2nd best do - - - - -	1	2nd best do do do do do - - - - -	5
Best scythe—snathe and seythe, - - - Diploma		Best hay and cattle weighing scales, diploma and - - - - -	10
Second best do do - - - - -	1	Best weighing machine for general farm purposes, - - - - - Diploma	
Best twelve hand rakes, - - - - -	3	Best lot of small and large scales, - - - - -	5
Second best do - - - - -	2	Best portable cider press, - - - - - Silver Medal	
Best six hay forks, - - - - -	3	2nd best do do - - - - -	5
Second best do - - - - -	2	Best half dozen flour barrels, - - - - - Silver Medal	
Best six grass scythes, - - - - - Diploma		2nd best do do - - - - -	5
Second best do - - - - -	2	Best variety of cooper work, - - - - - Silver Medal	
Best six grain scythes, - - - - - Diploma		2nd best do do - - - - -	5
Second best do - - - - -	2	Best Shingle and stave cutter, - - - - - Silver Medal	
Best six axes, - - - - - Diploma		2nd best do do - - - - -	5
Second do - - - - -	3	Best invention for spreading lime, - - - - -	5
Best six manure forks, - - - - -	3	Best collection of farmer's tools, arranged in a deposit, - - - - -	5
Second best do - - - - -	2	Best invention for securing the run of water in drains, - - - - -	5
Best six Devonshire shovels, - - - - - Diploma		2nd best do do do do do - - - - -	3
2nd best do do - - - - -	2	Best and most numerous collection of Agricultural Implements, diploma and - - - - -	25
Best six canal shovels, - - - - - Diploma		2nd best do do do do do - - - - -	20
2nd best do - - - - -	2	In addition to the foregoing premiums on Agricultural Implements, DIPLOMAS and PREMIUMS will be awarded by the Judges on Discretionary PREMIUMS, for such new and meritorious implements and inventions as may be exhibited. Persons presenting Agricultural Implements or articles of mechanical ingenuity, are requested to furnish the Secretary with a particular description of the article, and the price and place where it can be obtained.	
Best six spades, - - - - - Diploma			
2nd best do - - - - -	2		
Best six corn hoes - - - - -	3		
2nd best do - - - - -	2		
Best set of horse shoes, - - - - -	3		
Best lot of grain measures, not less than six, - - - - -	3		
2nd best do do do do do - - - - -	2		
Best dozen wire brooms, - - - - -	2		
2nd best do do - - - - -	1		
Best dozen shaker or twine-tied brooms, - - - - -	2		
2nd best do do do do do - - - - -	1		
Best half dozen corn baskets, - - - - -	5		
2nd best do do - - - - -	3		

No. 20.—FARM IMPLEMENTS AND MACHINE- RY No. 3.

For best portable saw mill, - - - - -	\$20
Best steam engine for farm purposes, easily portable, - - - - -	20
Best portable grist mill, - - - - -	20
Best mowing or reaping machine, - - - - - Silver Medal	
2nd best do do - - - - -	10
Best sweep horse power, - - - - -	10
2nd best do do - - - - -	5
Best railway, horse power, - - - - -	10
2nd best do do - - - - -	5
Best threshing machine, diploma and - - - - -	10

No. 21.—LEATHER AND ITS MANUFACTURES.

Best plow gears, - - - - -	\$5
2nd best do - - - - -	3
Best wagon harness for farm, - - - - -	5
2nd best do do - - - - -	3
Best cart gears, - - - - -	5
2nd best do - - - - -	3
Best sett of double harness, - - - - -	5
2nd best do do - - - - -	3
Best carriage harness, - - - - - Diploma	
2nd best do - - - - -	5
Best buggy harness, - - - - - Diploma	
2nd best do - - - - -	5

Best farm saddle, - - - - -	5
2nd best do - - - - -	3
Best lot of men and women's saddles and bridles, - - - - - Diploma	
2nd best do do do - - -	5
Best travelling trunk, - - - - - Diploma	
2nd best do - - - - -	5
Best lot of men, women's and children's boots and shoes, - - - - - Diploma	
2nd best - - - - -	5
Best wagon whips, - - - - -	5
2nd best do - - - - -	2
Best carriage whips, - - - - - Diploma	
2nd best do - - - - -	3
Best sole, harness and upper leather, - - - - - Diploma	
2nd best do do do - - -	5
Best calf skins, dressed, - - - - - Diploma	
2nd best do - - - - -	5

Other articles manufactured of leather, and not enumerated above, cash premiums and diplomas may be awarded to by the Committee.

CLASS NO. VI.

No. 22.—DAIRY, SUGAR AND HONEY.

Butter.

Best lot—quality as well as quantity considered—made from 5 cows, in 30 consecutive days, 20 pounds of the butter to be exhibited, \$20	
Second best do do do -	10
A certificate, signed by the owners of the cows, and at least one other person, who assisted in milking and making the butter, certifying to the facts of the case, to accompany each lot of butter.	
Best lot of 20 lbs. butter, made in June, 1854, \$10	
Second best lot do do do	5
Best firkin or tub of salted butter, not less than 3 months old, - - - - -	10
Second best, do do do -	5
Best 5 firkins of butter, not less than 3 months old, - - - - -	20

Premiums to be awarded to Girls under twenty-one years of age:

For the best lot of 10 lbs. of butter, made at any time, - - - - - SILVER MILK CUP	
Second best do do do SILVER CUP	
Best lot of 5 lbs. of butter, made any time—SET SILVER TEA SPOONS.	
Second best lot of 5 lbs. butter, made any time—SILVER CUP.	
Best barrel of salt for Dairy purposes, - - -	\$3
Second best do do - - -	2
Best barrel coarse salt for packing, - - -	3
Second best do do - - -	2
Cheese—One Year and Older.	
Best 50 lbs. cheese, - - - - -	\$10
Second best do - - - - -	5
Third best do - - - - -	3

Less Than one Year.

Best 50 lbs of Cheese, - - - - -	\$10
Second best do - - - - -	5
Third best do - - - - -	3
Best ½ dozen cheese boxes, - - - - -	2
Best 3 Dairies from any county, not less than 3 cheese from each, - - - - -	20
Those who present cheese for the premiums offered, must state in writing, the time it was made; the number of cows kept; whether the cheese was made from one, two, or more milkings; whether any addition is made of cream; the quantity of rennet used, and the mode of preparing it; the mode of pressure, and the treatment of cheese afterwards; and the kind of salt used.	

Sugar and Honey.

Best 20 lbs. maple sugar, - - - - -	\$5
Second best do - - - - -	3
Best 10 lbs. honey, - - - - -	5
Second best do - - - - -	3
Third best do - - - - -	2

The Honey to be taken without destroying the bees; and the kind of hives used, and the management of the same to be stated.

CLASS NO. VII.

FLOUR, CORN MEAL, GRAIN, SEEDS AND VEGETABLES.

No. 23.—FLOUR AND CORN MEAL.

Best barrel of flour, - - - - -	\$10
Second best do - - - - -	5
Third best do - - - - -	3
Best barrel of corn meal, prepared from kiln-dried corn, - - - - -	5
Second best do do do - - -	3
Best sample corn Farina, - - - - -	2
Best wheat Farina, - - - - -	2
Best sample 5 loaves baker's bread, - - -	Silver Medal
Second best do do - - -	Diploma
Best sample, 10 lbs each, water and butter crackers, - - - - -	Silver Medal
Second best do do do - - -	Diploma
Best smut machine - - - - -	\$10
Second best do - - - - -	5

No. 24.—GRAIN, SEEDS AND VEGETABLES.

Best bushel white wheat, - - - - -	\$3
Second best do - - - - -	1
Best bushel red wheat, - - - - -	3
Second best do - - - - -	1
Best bushel Mediterranean wheat, - - -	3
Second best do - - - - -	1
Best bushel rye, - - - - -	3
Second best do - - - - -	1
Best bushel yellow gourd seed corn, - - -	3
Second best do - - - - -	1
Best bushel white flint corn, - - - - -	3

Second best do - - - - -	1
Best bushel mixed corn, - - - - -	3
Second best do - - - - -	1
Best bushel oats, - - - - -	3
Second best do - - - - -	1
Best bushel barley, - - - - -	3
Second best do - - - - -	1
Best bushel Irish potatoes, - - - - -	3
Second best do - - - - -	1
Best bushel sweet potatoes, - - - - -	3
Second best do - - - - -	1
Best bushel field turnips, - - - - -	3
Second best do - - - - -	1
Best bushel ruta laga, - - - - -	3
Second best do - - - - -	1
Best bushel sugar beets, - - - - -	3
Second best do - - - - -	1
Best bushel carrots, - - - - -	3
Second best do - - - - -	1
Best bushel parsnips, - - - - -	3
Second best do - - - - -	1
Best bushel flaxseed, - - - - -	3
Second best do - - - - -	1
Best sample of hops, not less than 10 lbs., -	3
Second best do do do - - -	1
Best sample of timothy seed, 1 bushel, - -	3
Second best do do do - - -	1
Best sample of newly introduced grain, valuable to farmers, not less than 1 bushel, -	5
☞ Samples of grain and seeds in all cases, to be deposited with the Secretary.	
For 12 best stalks of celery, - - - - -	\$3
Second best do do - - - - -	2
6 best heads of cauliflower, - - - - -	3
Second best do - - - - -	2
12 best white table turnips, - - - - -	3
Second best do - - - - -	2
12 best carrots, - - - - -	3
Second best do - - - - -	2
12 best beets, - - - - -	3
Second best do - - - - -	2
12 best parsnips, - - - - -	3
Second best do - - - - -	2
12 best onions, - - - - -	3
Second best do - - - - -	2
6 best heads of cabbage, - - - - -	3
Second best do - - - - -	2
6 best heads of brocoli, - - - - -	3
Second best do - - - - -	2
12 best tomatoes, - - - - -	3
Second best do - - - - -	2
2 best purple egg plants, - - - - -	2
Second best do - - - - -	1
12 best sweet potatoes, - - - - -	3
Second best do - - - - -	2
Best $\frac{1}{2}$ peck Lima beans, - - - - -	3
Second best do - - - - -	2
Best bunch double parsley, - - - - -	2

Second best do - - - - -	1
3 best garden squashes, - - - - -	3
Second best do - - - - -	2
3 best large squashes, - - - - -	3
Second best do - - - - -	2
3 largest sweet pumpkins, - - - - -	3
Second largest do - - - - -	2
3 largest field pumpkins, - - - - -	3
Second largest do - - - - -	2
12 best ears yellow seed corn, - - - - -	3
Second best do - - - - -	2
12 best ears white seed corn, - - - - -	3
Second best do - - - - -	2
Best 12 table potatoes, - - - - -	3
Second best do - - - - -	2
For the choicest and largest assortment of table vegetables, - - - - -	
Second best do do do do - - -	10
Second best do do do do - - -	5

CLASS NO. VIII.

No. 25.—DOMESTIC MANUFACTURES.

Best lot of silk cocoons, - - - - -	\$8
Second best do - - - - -	5
Best specimen of raw silk, - - - - -	5
“ “ reeled silk, - - - - -	5
“ “ sewing silk, - - - - -	5
“ pair silk stockings, - - - - -	5
“ silk shawl, - - - - -	5
“ “ handkerchief, - - - - -	5
“ pair woolen blankets, - - - - -	Silver Cup
Second best do - - - - -	5
Third best do - - - - -	3
Best 10 yards woolen cloth, - - - - -	5
Second best do - - - - -	3
Best 15 yards woolen carpet, - - - - -	Silver Cup
Second best do - - - - -	8
Third best do - - - - -	5
Best hearth rug, - - - - -	Silver Cup
Second best do - - - - -	5
Third best do - - - - -	3
Fourth best, do - - - - -	2
Best rag carpet, 15 yards, - - - - -	5
Second best do - - - - -	3
Third best do - - - - -	2
Best double coverlet, - - - - -	5
Second best do - - - - -	3
Third best do - - - - -	5
Best pair woolen knit stockings, - - - - -	3
Second best do - - - - -	2
Third best do - - - - -	1
Best pair woolen knit half hose, - - - - -	3
Second best do - - - - -	2
Third best do - - - - -	1
Best pair woolen mittens, - - - - -	2
Second best do - - - - -	1
Best home made shirt, - - - - -	5
Second best do - - - - -	3

Best barred flannel, 12 yards,	-	-	-	Silver Cup	2nd best do	-	-	-	-	-	2
Second best do	-	-	-	3	Best preserves,	-	-	-	-	Silver Cup	
Best plain flannel, 12 yards,	-	-	-	5	2nd best do	-	-	-	-	3	
Second best do	-	-	-	3	Best fruit jelly,	-	-	-	-	3	
Best 10 yards barred linen,	-	-	-	Silver cup	2nd best do	-	-	-	-	2	
Second best do	-	-	-	3	Best tomato preserves,	-	-	-	-	Silver Cup	
Best 10 yards plain linen,	-	-	-	Silver cup	2nd best do	-	-	-	-	3	
Second best do	-	-	-	3	Best tomato figs,	-	-	-	-	5	
Third best do	-	-	-	2	2nd best do	-	-	-	-	3	
Best 10 yards linen diaper,	-	-	-	5	Best specimen of pickles,	-	-	-	-	3	
Second best do	-	-	-	3	2nd best do	-	-	-	-	2	
Third best do	-	-	-	2	Best sample of apple butter,	-	-	-	-	3	
Best 10 yards tow cloth,	-	-	-	3	2nd best do	-	-	-	-	2	
Second best do	-	-	-	2	Best quince and peach butter, each	-	-	-	-	3	
Best pair cotton knit half hose,	-	-	-	3	2nd best do	-	-	-	-	2	
Second best do	-	-	-	2	Best home made soap,	-	-	-	-	3	
Best pair linen knit stockings,	-	-	-	3	2nd best do	-	-	-	-	2	
Second best do	-	-	-	2	Persons whose trade is baking, cannot enter this list in competition, as it is intended alone for the encouragement of housekeepers.						
Best pair linen knit half hose,	-	-	-	3							
Second best do	-	-	-	2							
Best pound linen sewing thread,	-	-	-	5							
Second best do	-	-	-	3							

No. 26.—HOUSEHOLD MANUFACTURES.

Best ornamental needle work,	-	-	-	\$5	Best piece black broad cloth, American	-	-	-	Diploma	
Second best do	-	-	-	3	Best piece blue broad cloth, American	-	-	-	Diploma	
Third best do	-	-	-	2	Best piece woolen carpet, manufactured in	-	-	-	Diploma.	
Best ottoman cover,	-	-	-	2	factories, twenty yards,	-	-	-	Diploma.	
Second best do	-	-	-	2	Best piece of sattinett, twenty yards,	-	-	-	Diploma.	
Best table cover,	-	-	-	3	“ bleached cotton shirting, thirty yards,	-	-	-	Diploma.	
Second best do	-	-	-	2	“ unbleached cotton shirting, 30 yards,	-	-	-	Diploma.	
Best artificial flowers,	-	-	-	3	“ bleached cotton sheeting, 30 yards,	-	-	-	Diploma.	
Second best do	-	-	-	2	“ unbleached cotton sheeting, 30 yards,	-	-	-	Diploma.	
Best variety worsted work,	-	-	-	5	“ linen sheeting, twenty yards,	-	-	-	Diploma.	
Second best do	-	-	-	3	“ pair woolen blankets,	-	-	-	Diploma.	
Best fancy work with needle for chair,	-	-	-	3	“ variety of flannel,	-	-	-	Diploma.	
Second best do do	-	-	-	2	“ variety of American shawls from A-	-	-	-	Silver Medal.	
Best worked cushion and back,	-	-	-	3	merican wool,	-	-	-	Silver Medal.	
Second best do	-	-	-	2	“ carriage, buggy and hunting wagon, each	-	-	-	\$10	
Best quilt,	-	-	-	3	2nd best do do do	-	-	-	5	
Second best do	-	-	-	2	Best piano,	-	-	-	Silver Medal.	
Best counterpane,	-	-	-	3	2nd best do	-	-	-	Diploma.	
2nd best do	-	-	-	2	Best specimens of Cabinet Ware—Silver Medal,	-	-	-	\$10	
Best lamp-stand mat,	-	-	-	3	Second best do	-	-	-	5	
2nd best do	-	-	-	2	Best improved Bedstead,	-	-	-	3	
Best ornamental shell work,	-	-	-	3	Second best do	-	-	-	10	
2nd best do	-	-	-	2	Best improved School Desk and Chairs—Silver Medal	-	-	-		
Best specimen wax flowers,	-	-	-	3	Second best do do	-	-	-		
2nd best do	-	-	-	2						

Premiums of \$2 each, to the number of ten, may be awarded on articles coming within this class and not enumerated above.

Articles of domestic manufacture to be made in the family: and, in all cases, the exhibitor must furnish evidence that the articles are so manufactured. And no article manufactured in factories, or out of the family, will be received in either of the classes of domestic manufacture.

Best home made bread,	-	-	-	\$5
2nd best do	-	-	-	3
Best pound cake,	-	-	-	3
2nd best do	-	-	-	2
Best sponge cake,	-	-	-	3

CLASS NO. IX.

AGRICULTURAL PRODUCTIONS OF FIELD CROPS.

No. 28.—WINTER PREMIUMS.

Best 5 acres of Corn,	-	-	-	-	\$50
Second best “	-	-	-	-	20
Best Acre of Corn, not less than 80 bushels,	-	-	-	-	20
Second best “ “ “ 70 “	-	-	-	-	10
Best 5 acres of Wheat,	-	-	-	-	50
Second best do	-	-	-	-	20
Best Acre of Wheat, not less than 40 bushels,	-	-	-	-	20
Second best “ “ “ 35 “	-	-	-	-	10

Best 5 acres of Rye, - - - - -	25
Second best do - - - - -	15
Best Acre of Rye, not less than 40 bushels, -	10
Second best " " " 35 " - - -	5
Best 5 acres of Barley, - - - - -	25
Second best do - - - - -	15
Best Acre of Barley, not less than 50 bushels, -	10
Second best " " " 40 " - - -	5
Best 5 acres of Oats, - - - - -	25
Second best do - - - - -	15
Best Acre of Oats, not less than 70 bushels, -	10
Second best " " " 60 " - - -	5
Best Acre of Timothy Seed, - - - - -	10
Second best do do - - - - -	5
Best Acre of Clover Seed, - - - - -	20
Second best do do - - - - -	10
Best acre of Irish potatoes, not less than 200 bushels, - - - - -	20
2nd best do - - - - -	15
Best acre of table potatoes, - - - - -	25
2nd best - - - - -	15
Best half acre table potatoes, - - - - -	10
2nd best do - - - - -	5
Best acre of carrots, 60 lbs. per bushel, - - -	20
2nd best do do - - - - -	10
Best half acre of carrots, 60 lbs. per bushel, -	10
2nd best do do - - - - -	5
Best acre of ruta baga, 60 pounds per bushel, -	20
2nd best do do - - - - -	15
Best half acre of ruta baga, 60 pounds per bu., -	10
2nd best do do - - - - -	5
Best half acre of sugar beets, - - - - -	10
2nd best do do - - - - -	5
Best quarter acre of mangel wurtzel, - - - -	10
2nd best do do - - - - -	5
Best quarter acre of turnips, - - - - -	10
2nd best do do - - - - -	5
Best quarter acre of sweet potatoes, - - - -	10
2nd best do do - - - - -	5
Best half acre of tobacco, - - - - -	10
2nd best do - - - - -	5

Competitors for premiums for the above agricultural productions, *must* produce a *full* statement of the mode of cultivation and the kind of seed used. The ground to be in one contiguous piece, to be measured by a Surveyor, with chain and compass, who shall certify to the correctness of the measurement of the land cultivated.

All of the corn competing for the five acre crop, and all of the corn competing for the one acre crop, must be shelled and measured between the 1st of December and the 10th of January, and the number of bushels certified to by two disinterested persons, who shelled and measured the same.

The grain to be measured in a scaled half bushel, or measured by weight, according to the standard.

The exhibitor must, also, exhibit a sample of each crop, not less than half a bushel, at the annual meet-
in Harrisburg.

CLASS NO. X.

FRUITS AND FLOWERS.

No. 29.—FRUIT.

Best and greatest number of choice varieties of Apples, 3 of each kind marked and labeled with the names, - - - - -	\$10
Second best do - - - - -	5
Best dozen of Fall Apples, - - - - -	3
Second best do - - - - -	2
Best and greatest number of choice varieties of Peaches, 3 of each variety, with the name, - - -	10
Second best do - - - - -	5
Best 5 varieties of Pears, named and labeled, - - -	5
Second best do - - - - -	3
Best dozen of Quinces, - - - - -	3
Second best do - - - - -	2
Best collection of Plums, 6 of each variety, - - -	5
Second best do - - - - -	3
Best German Prunes, - - - - -	5
Second best do - - - - -	3
Best Grapes, grown in the open air, - - - - -	5
Second best do - - - - -	3
Best specimen of Water Melon, - - - - -	3
Second best do do - - - - -	2
Best collection of Water Melons, not more than 10, -	3
Second best do - - - - -	2
Best specimen of Musk Melon, - - - - -	3
Second best do - - - - -	2
Best collection of Musk Melons, not more than 10, -	3
Second best do - - - - -	2
Best peck of Cranberries, domestic culture, - - -	3
Second best do - - - - -	2
Best home made Sparkling Wine, - - - - -	3
Second best do do - - - - -	2
Best home made Wine, - - - - -	3
Second best do - - - - -	2
Best home made Bounce, - - - - -	3
Second best do - - - - -	2
Best home made Cordial, - - - - -	3
Second best do - - - - -	2

Best bottled Cider, with mode of curing so as to keep sweet for one year, - - - - -	5
Best sample of grape training, - - - - - Silver Medal	
Second best, - - - - -	5

The fruit exhibited not to be removed until the close of the Exhibition; and particular care is requested to be observed by the Judges and Superintendents, that the same is not injured.

No. 30.—FLOWERS.

Greatest variety of Dahlias, - - - - -	\$1
Second greatest do - - - - -	2
Greatest variety of Roses, - - - - -	3
Second greatest do - - - - -	2
Best variety of Philoxes, - - - - -	3
Second best do - - - - -	2
Greatest variety of Verbenas, - - - - -	3
Second greatest do - - - - -	2

Best 10 varieties of do - - - -	3
Second best do - - - -	2
Best collection of German Asters, - - -	3
Second best do do - - -	2
Best and greatest variety of Pansies, - -	3
Second best do do - - -	2
Best collection of Greenhouse plants owned by one person, - - - -	20
Second best do do - - -	10
Best floral Ornament, - - - -	10
Second best do - - - -	5
Best hand Boquet, <i>Flat</i> , - - - -	3
Second best do do - - - -	3
Best hand Boquet, <i>Round</i> , - - - -	3
Second best do do - - - -	2
Best basket Boquet, - - - -	5
For the most beautifully arranged basket of Flowers, - - - -	5

CLASS NO. XI.

STOVES, SILVER-WARE, GLASS AND GLASS-WARE, CUTLERY AND BRITANNIA.

No. 31.—STOVES.

Best Cooking Stove for coal—Silver Medal.	
Second best do do - - - -	\$5
Best Cooking Stove for wood fire—Silver Medal.	
Second best do do - - - -	5
Best Cooking Range for families—Silver Medal.	
Second best do do - - - -	5
Best Furnace or other apparatus for warming houses, economy of construction and consumption of fuel and security of premises to be taken in consideration—Silver Medal.	
Second best do—Diploma - - - -	5
Best Ornamental Parlor Stove—Silver Medal.	
Second best do do - - - -	5
Best Hall Stove—Silver Medal.	
Second best do - - - -	5
Best sample Hollow Ware—Silver Medal.	
Second best do - - - -	5
Best sample Iron Railing—Silver Medal.	
Second best do - - - -	5
Best Arbor Seats, - - - -	5
Second best do - - - -	3
Best sample sculptured Marble—Silver Medal.	
Second best do do - - - -	5

No. 32.—SILVER-WARE, GLASS AND GLASS-WARE, CUTLERY AND BRITANNIA.

Best exhibition of Silver Ware—Silver Medal.	
Second best do —Diploma.	
Best exhibition of Table Cutlery, American Manufacture—Silver Medal.	
Second best do—Diploma.	
Best Pocket Cutlery, American manufacture—Silver Medal.	
Second best do—Diploma.	
Best specimen of Silver Ware, with agricultural designs, suitable for premiums—Silver Medal.	
Second best do—Diploma.	

Best variety of Britannia Ware—Silver Medal.	
Best sample of Window Glass—Silver Medal.	
Second best do do —Diploma.	
Best samples of Glassware—Silver Medal.	
Second best do —Diploma.	

CLASS NO. XII.

BACON, HAMS, INVENTIONS AND MISCELLANEOUS ARTICLES.

No. 33.—BACON AND HAMS.

For best 2 Hams cured by exhibitor, - - -	\$8
Second do do do - - -	5
Third do do do - - -	3
Fourth do do do - - -	2

All competitors for these premiums are required to have their Hams cooked and brought to the exhibition with the skins on, and also to give a statement of the manner of curing.

No. 34.—INVENTIONS.

For best improvement for roofing houses, whether with wood, iron or other material—Silver Medal.

Best lot of pressed Brick, - - - -	\$3
Best lot of water or sand moulded brick, -	3

For improvements in machinery useful to the farmer, and having valuable properties, and not included under any head of any regular premiums, discretionary premiums will be awarded; but no premium will be awarded upon articles which properly belong to any of the previous classes.

Under this general head, premiums will be awarded upon articles of ingenuity, usefulness and merit, which may be exhibited, which are not provided for in the foregoing list of premiums. Any articles deemed worthy, manufactured of iron, metal, brass, leather, india-rubber, and articles composed of cloth, fur hats, caps, umbrellas, &c., cash premiums and diplomas may be awarded to.

No. 35.—MISCELLANEOUS ARTICLES.

For best specimens of Daguerreotype—Silver Medal.	
2nd best do do —Diploma.	
Best specimen of Cattle Drawing—Silver Medal.	
2nd best do do —Diploma.	
Best specimen of animal painting in oil—Silver Medal.	
2nd best do do do —Diploma.	
Best specimen of Dentistry—Silver Medal.	
2nd best do —Diploma.	
Best specimens of Animal Lithographing—Silver Medal.	
2nd best do—Diploma.	



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